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A Review of the Catalytic Cracker Gas Plant At Union Oil Company's Los Angeles Refinery

By
ARNOLD E. KELLEY
and
HARRY F. POLL

Introduction

A new FCC Unit (Fluid cat cracker) was placed on stream at Union Oil Company's Los Angeles Refinery last July. It supplements production from an existing TCC Unit (Thermofor cat cracker). Total catalytic gasoline production was more than doubled by the addition of the new facilities. A unique feature of the new FCC design was the integration of its gas plant facilities with those of the already existing TCC Unit, resulting in appreciable capital savings and excellent operating flexibility.

The primary objectives of this paper are:

1) to describe briefly why and how it was possible to integrate the cat cracker gas plants
2) to describe, with the aid of flow sheets, the process flow and operating features of the integrated gas plant and,
3) to discuss points of operating flexibility and operating difficulty.

Secondarily, the wash water facilities which were installed to minimize hydrogen attack on the gas plant equipment will be described.

Gas Plant Components

When Union decided to increase its catalytic cracking capacity by supplementing its existing TCC Unit with a new FCC Unit, attention was drawn to existing excess TCC gas plant capacity. This spare capacity was the result of several factors:

(1) an original overdesign factor of 20%
(2) operation at lower conversion levels than originally designed
(3) change from war operation of cracking and treating to cracking only.

Analysis showed that by adding only deethanizing absorber and two new 1,300 H.P. compressors, all major equipment items would be present for integrated gas plant operation on the reactor products from both cat crackers.

The feed to the integrated gas plant consists of wet gas and wild gasoline produced from the catalytic sections of both the new FCC Unit and the original TCC Unit.

The function of the integrated gas plant is to separate the feed into the following product streams:

dry gas
propane-propylene
butane-butylene
pentane-amylene
light catalytic gasoline
heavy catalytic gasoline

The gas plant can be conveniently divided into three sections.

The first section (Figure 1) is referred to as "TCC Facilities." It receives the wet gas and unstabilized gasoline from the TCC Unit and processes them through a deethanizer and depentanizer to yield a dry gas to the refinery fuel gas system, a TCC depentanizer overhead containing the C_3's, C_4's,

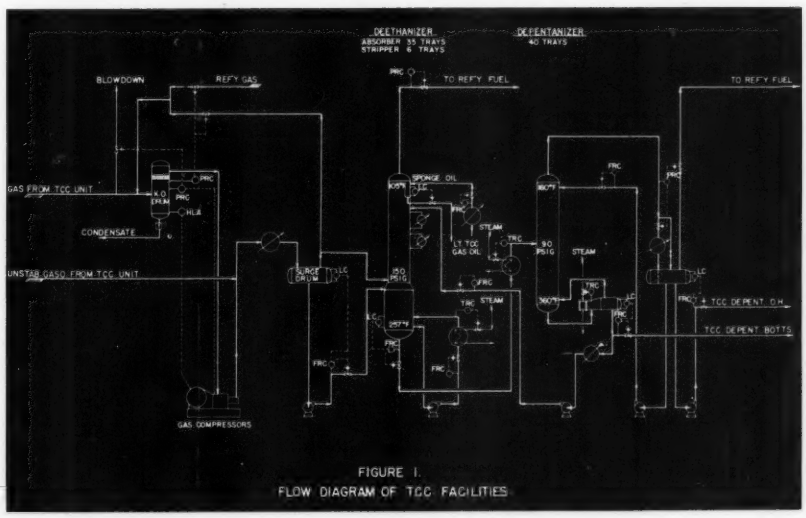


FIGURE 1.
FLOW DIAGRAM OF TCC FACILITIES

and C_5's, and a TCC dependentanizer bottoms.

The second section (Figure 2) is referred to as "FCC Facilities." It receives the wet gas and unstabilized gasoline from the new FCC Unit, and in a manner similar to the first section, processes them to produce dry gas, an FCC dependentanizer overhead and FCC dependentanizer bottoms.

The third section (Figure 3) is referred to as "Combined Facilities" since here the TCC and FCC streams are commingled and processed through facilities common to both. The TCC and FCC dependentanizer overhead streams are combined and processed through a depropanizer and debutanizer to produce propane-propylene, butane-butylene and pentane-amylene streams. The TCC and FCC dependentanizer bottoms streams are combined and fed to a single rerun tower where they are split into light and heavy catalytic gasoline streams.

TCC Facilities

Figure 1 is a flow diagram of the TCC facilities showing basic control instrumentation.

Wet gas from the TCC Unit is received in a compressor suction knockout drum where entrained liquid is removed by a wire mesh mist extractor. The knockout drum is equipped with a high level alarm, and if the level continues to rise, the magnetos of the compressor engines are shorted, thus shutting down the compressors. Constant suction pressure on the compressors is provided by two pressure recorder control instruments, one for above the control point and the other below. The action on high pressure is to first speed up the compressor and after reaching maximum speed to vent gas to blowdown.

When the pressure drops, the compressor speed is gradually reduced, and if the pressure continues to drop, the second instrument opens first one control valve which recycles compressor discharge and if necessary, a second, which lets refinery fuel gas into the system.

The gas is compressed in two-stage compressors to 160 psig and joined by the TCC unstabilized gasoline, as it flows through coolers to the TCC deethanizer surge drum.

Vapors from the surge drum pass upward through the absorber section of the column, contacting absorption oil (dependentanized gasoline from the TCC dependentanizer). The top five trays are a sponge section where any small quantities of absorption oil carry-over are recovered by sponge oil (light TCC gasoil). Dry gas is produced overhead under pressure control. After scrubbing with diethanolamine for the removal of H_2S, it enters the refinery fuel gas system. Rich sponge oil is trapped out on a sealed pan and returned to the main TCC fractionation system. Two intercoolers remove heat from the absorption section.

Liquid from the deethanizer surge drum enters the stripping section of the column and passes downward together with the rich absorption oil. In this section ethane and lighter are stripped from the liquid. A steam reboiler provides heat to the bottom of the deethanizer. The basic control instrumentation is shown on the diagram and requires no explanation since it is a typical installation.

The deethanized gasoline from the bottom of the TCC deethanizer flows through a steam preheater into the TCC dependentanizer where it is separated into an overhead of pentanes and lighter and a bottoms of dependentanized gasoline. Heat is supplied to the bottom of the tower by a steam reboiler. A cold reflux ratio (reflux to net product) of about 1.5 is used.

In the redesign by Universal Oil Products Company of the catalytic gas plant to adapt it for use with the FCC facilities, a very successful method of pressure control for this tower was employed. Under normal conditions the dependentanizer is operated total condensing. Tower pressure is controlled by a butterfly valve on the overhead vapors flowing to the condenser. The liquid inlet line from the condenser projects downward below the level in the accumulator drum and an equalizing line connects the top of the accumulator to the dependentanizer overhead line upstream of the control valve. This arrangement establishes a pressure in the accumulator which is equal to that in the tower overhead line, irrespective of the temperature of the liquid in the accumulator drum. If, for example, an upset occurs which tends to decrease the tower pressure below the control point, the butterfly valve in the overhead line is throttled until the pressure builds back up to the control point. The equalizing line forces liquid up the line between the condenser and accumulator to a height equivalent to the pressure drop across the control valve. This system permits more rapid response to pressure upsets than does one that requires changing the temperature of the accumulator liquid until it gives the desired equilibrium pressure. It also provides for more reliable pump suction conditions on the reflux and overhead product pumps. When the tower is producing non-condensibles, however, the equalizing line is blocked closed and the pressure is controlled by a motor valve relieving accumulator gas to the refinery fuel system. This alternate is also shown in Figure 1.

FCC Facilities

Figure 2 is a flow diagram of the FCC facilities.

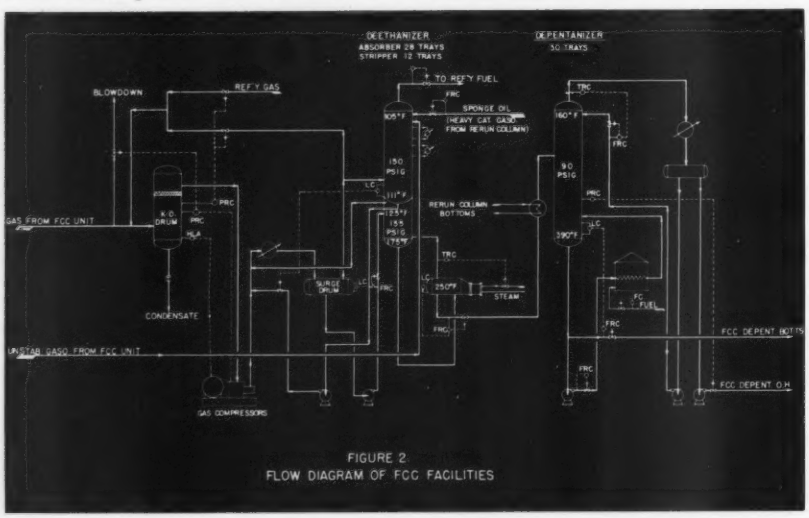
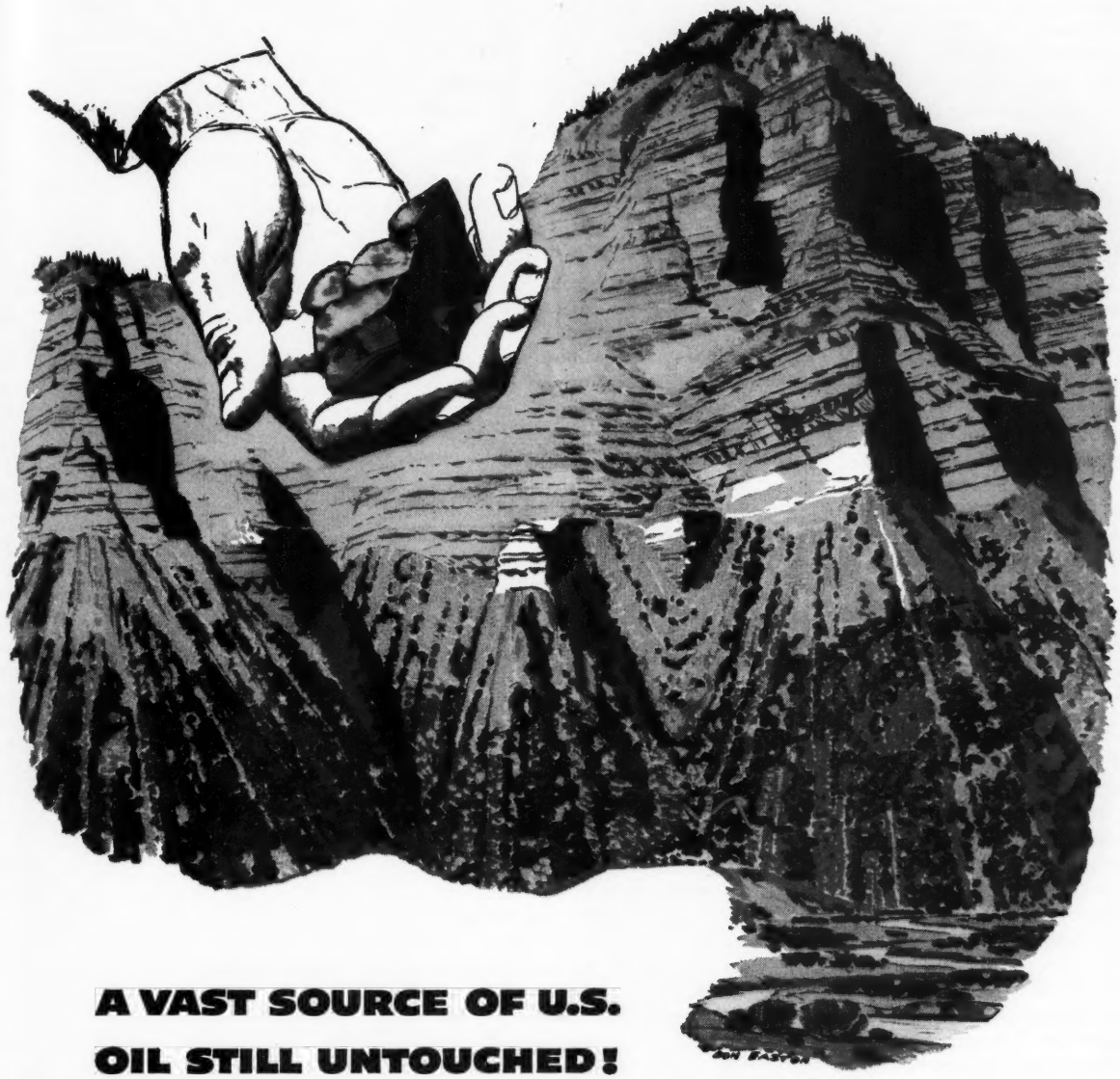
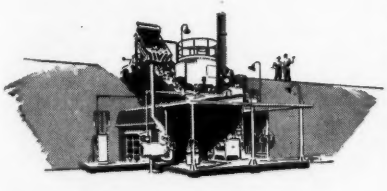


FIGURE 2
FLOW DIAGRAM OF FCC FACILITIES



A VAST SOURCE OF U.S. OIL STILL UNTOUCHED!

1. Many Americans have probably never heard about oil shale—one of our country's greatest natural resources. Shale is a rock formation that contains kerogen—a solid that breaks down into oil and coke when heated. There are a number of shale formations in the U. S., the richest of which is in the Green River Basin of Colorado and Wyoming. This single 1000-square-mile deposit contains *three times as much* oil as the total proven crude oil reserves of the U. S.!



2. However, the big problem has been how to extract the oil from this shale on an *economical* basis. Union Oil research men have been experimenting with shale oil extraction since 1943. One of their accomplishments was the development of a retort that can extract shale oil far more economically than any previous method.

3. This retort—along with improved mining and refining techniques—has reduced the cost of producing oil from shale more than most people realize. And each year the cost of finding and producing crude oil continues to rise. At some time, then, it is probable that oil can be obtained from shale at a cost competitive with crude oil.

4. When this will come about is anybody's guess. But one thing is certain: the American people can be sure that this natural resource of theirs will be developed at the earliest possible date with the greatest efficiency *only if private enterprise* is left free to do the job. For our *competitive* private enterprise system has demonstrated time and time again that it can develop better products, for more people, at lower prices than any method yet devised by man.

UNION OIL COMPANY
OF CALIFORNIA
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This series, sponsored by the people of Union Oil Company, is dedicated to a discussion of how and why American business functions. We hope you'll feel free to send in any suggestions or criticisms you have to offer. Write: The President, Union Oil Company, Union Oil Building, Los Angeles 17, California.

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The wet gas from the FCC Unit is received in a knockout drum and compressed to 160 psig exactly as described for the TCC facilities.

The FCC deethanizer is actually a double tower, consisting of an upper absorption section and a lower stripper section. The vapors discharging from the compressors are recombined with the overhead from the stripper section and the bottoms from the absorption section giving one additional theoretical contact. The combined vapor-liquid stream flows through a precooler and into the deethanizer surge drum. The vapors from the surge drum enter the bottom of the absorption section and in ascending the column are contacted by the unstabilized FCC gasoline which serves as absorption oil. The use of wild gasoline as absorption oil makes it possible to get both stripping and absorption in the absorption section, thus increasing the effective height of the stripping section and making possible the production of an ethane-free liquid from the bottom of the column. Heavy cat gasoline from the rerun unit is used as sponge oil in this column, and as with the TCC deethanizer, two intercoolers remove heat from the absorption section. The dry gas produced overhead is scrubbed for removal of H_2S before flowing into the refinery fuel gas system.

The liquid from the deethanizer surge drum is pumped into the top of the stripper section. Heat is supplied to the bottom of the column by a steam heated reboiler. The ethane-free bottoms are exchanged against rerun column bottoms to obtain preheat and fed into the FCC dependanizer.

In the FCC dependanizer, the deethanized feed is separated into an overhead product containing pentane and lighter and a bottoms product of dependanized gasoline. Heat is supplied to the bottom of the column by a fired reboiler and a cold reflux ratio of about 1.5 is used. This column is not equipped as yet with the more desirable pressure control system described previously; however, reasonably satisfactory control is obtained by the flooded reflux system shown. In this system the reflux drum, part of the condenser, and the line between them contain liquid. The height of liquid in the condenser is varied to expose more or less condensing surface by a pressure controller which throttles the pump discharge of overhead product. Thus, if the pressure rises above the control point, the control valve opens further and more product is pumped away. This lowers the liquid level in the condenser, exposing more surface with which to condense vapors, thereby reducing the pressure back to the control point.

Combined Facilities

The TCC dependanizer and FCC dependanizer overhead streams are combined and flow through a steam heated preheater into the depropanizer. The liquid propane-propylene stream taken overhead is split to provide a cold reflux ratio of about 4 and a net production which goes to diethanolamine scrubbing for H_2S removal. Heat is supplied to the bottom of the column by a steam heated reboiler. The column pressure is controlled by a hot by-pass around the overhead condensers. One disadvantage of this control, which was not modified from the original design, is as mentioned before, that the large inventory of liquid in the accumulator drum must reach a temperature which will give the desired equilibrium pressure, making response sluggish.

Depropanizer bottoms are pressured into the debutanizer for separation into an overhead butane-butylene product and a bottom pentane-amylene product. A cold reflux ratio of about 1.5 is used in the debutanizer and heat is supplied to the bottom of the column by a steam heated reboiler. The debutanizer is operated on flooded reflux and pressure control in a manner already described for the FCC dependanizer.

The TCC dependanizer and FCC dependanizer bottom streams are combined and fed into the rerun column or gasoline splitter. The rerun overhead, or light catalytic gasoline, is split into two streams. One refluxes the tower with a cold reflux ratio of about 0.6 and the other goes to treating and inhibiting for use as a gasoline blending stock. Heat is applied to the bottom of the column by a fired reboiler, a separate section of the same heater that reboiled the FCC dependanizer. The rerun bottoms, or heavy catalytic gasoline, is cooled first by exchange against FCC dependanizer feed, then against water. It is then split into two fractions. One fraction is pumped under flow control to the FCC deethanizer where it serves as sponge oil; the other fraction, or balance, goes to treating and inhibiting for use as a gasoline blending stock.

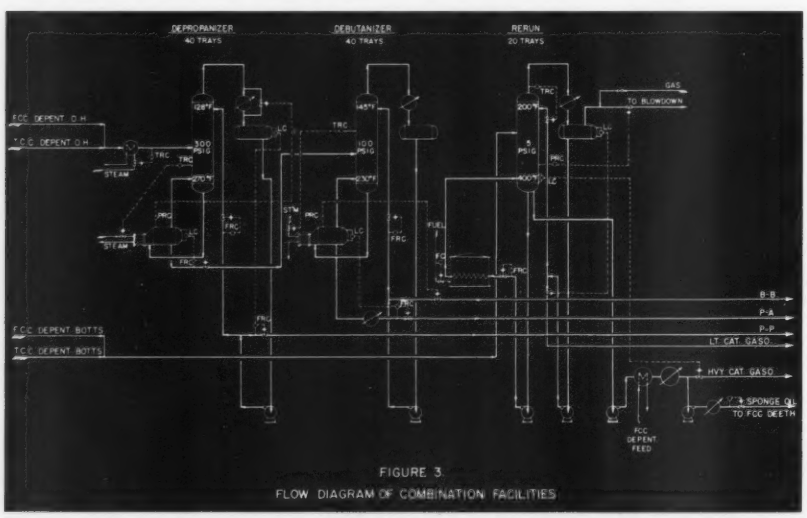

FIGURE 3
FLOW DIAGRAM OF COMBINATION FACILITIES

Product Recoveries And Compositions

The light ends recoveries in this unit are 70% for the propane-propylene, 95% for the butane-butylene, and 99+% for the pentane-amylene.

The composition, or purity, of the streams are about as follows:

1) Propane-Propylene

C_2 minus	10.0%, mol.
C_3	89.0
C_4	1.0
	100.0%, mol.

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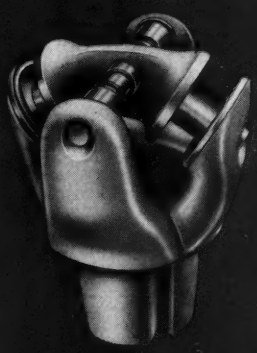

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2) Butane-Butylene

C_3	1.5%, mol.
C_4	97.5
C_5	1.0
	100.0%, mol.

3) Pentane-Amylene

C_4	1.0%, mol.
C_5	97.1
C_6	1.9
	100.0%, mol.

Gas Plant Flexibility

Considerable operating flexibility is afforded by a by-pass arrangement which permits continued production of stabilized gasoline in the event that one or more towers are shut down for repairs.

Briefly, jump-over lines permit the by-passing of the TCC deethanizer and/or TCC dependentanizer, and running the combined feeds through the corresponding FCC towers, or vice versa. Where necessary production rates have to be cut back to accommodate limiting tower loadings, however, a costly total shutdown of the cat crackers can be avoided. This by-pass arrangement also helps in the start-up of either the FCC or TCC cat cracker. When either of the cat crackers is being readied for a start-up some of the reactor products from the operating unit can be prematurely by-passed into the gas plant of the other. Thus, its deethanizer and dependentanizer can be brought on stream, ready to take over when its own cat cracker starts to produce feed.

When any of the towers of the combined facilities are shut down, that is, depropanizer, debutanizer or rerun, operation of those remaining can be continued. In some cases it may be necessary to reduce rates.

To illustrate, if the depropanizer were by-passed due to shutdown, the deethanizers would be operated to produce propanes overhead to fuel gas. The debutanizer would not be capable of total condensing operation and a propane rich gas would be pressure controlled overhead from the debutanizer overhead accumulator into the refinery fuel gas system. Liquid B-B would be produced from the debutanizer overhead accumulator drum as normal.

If the debutanizer were by-passed due to shutdown, several alternates are available. Pentanes could be left in the dependentanizer bottoms and the combined propanes and butanes then comprising the dependentanizer overhead run to butane production. This also by-passes the depropanizer. Another alternate would be to operate the depropanizer on the propane-butane mixture to effect a split between them. In either case, pentanes would be produced with the light gasoline at the rerun unit.

When the rerun tower is down a full range gasoline is produced.

Operating Difficulties Experienced

It is believed to be of interest to point out a few of the operating problems that have been experienced in the plant.

Compressor cylinder walls were being badly scored in early operations, particularly in the high pressure stage. The problem was analyzed and attributed to condensation of heavy ends in the wet gas with a resultant "washing away" of the lubrication on the cylinder walls. An attempt was made to find a lubricant which would resist this action and alleviate the trouble, but without success. It was then decided to raise the cooling jacket water temperature to 130°-140°F from its former 100°-110°F, to minimize condensation. The result was completely successful and no further trouble has been encountered.

Another early compressor problem was an excessive breakage of valves, also predominantly in the high pressure stage. The valves being used were steel, 12% chrome. Several theories were advanced for the cause, including hydrogen embrittlement and liquid entrainment. Although it is not possible to state a definite cause, the problem was eliminated by switching to Micarta plastic valves.

Another early problem was the plugging of instrument lines on the depropanizer resulting in false readings of levels, flow rates, etc. The trouble was quickly identified as due to H_2S hydrate formation and eliminated by steam tracing the instrument lines.

Wash Water System

The function of the wash water system, shown in Figure 4, is to minimize hydrogen metal attack on the gas plant equipment, an important problem with FCC operators everywhere, and especially those using heavy California stocks which are comparatively high in nitrogen and sulfur content. The effect of this attack is to make the metal brittle and to cause blistering and surface fissuring. For those interested in details of the mechanism and effect of hydrogen attack, attention is directed to the article by Effinger, et al, Petroleum Refiner, May, 1951.

However, in brief, the attack is caused by atomic hydrogen penetrating or diffusing into the metal where it associates into molecular hydrogen which cannot diffuse back out. Internal pressures are built up until failure of the metal results. The atomic hydrogen is liberated from water by galvanic corrosion cells on the metal surface, that is, it occurs only where moisture is present. It has been found that certain ions actively promote the acceptance of atomic hydrogen by the metal, one of the worst offenders being the cyanide ion. Apparently the FCC process converts some of the nitrogen in the feedstock into the cyanide ions.

(Continued on page 25)

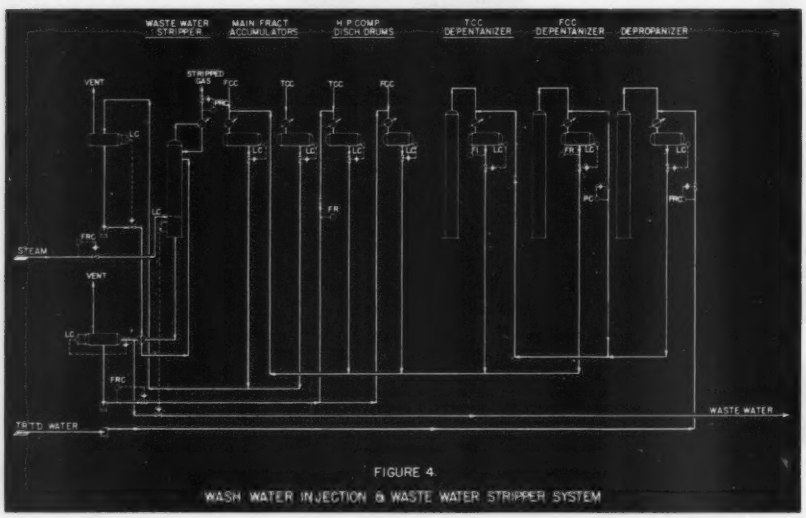

FIGURE 4.
WASH WATER INJECTION & WASTE WATER STRIPPER SYSTEM

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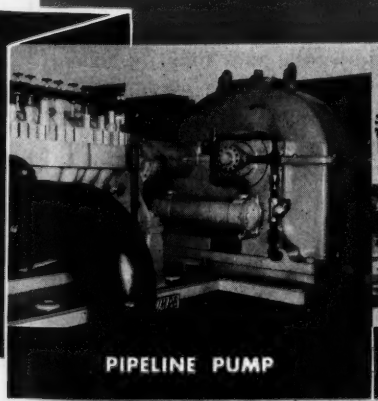
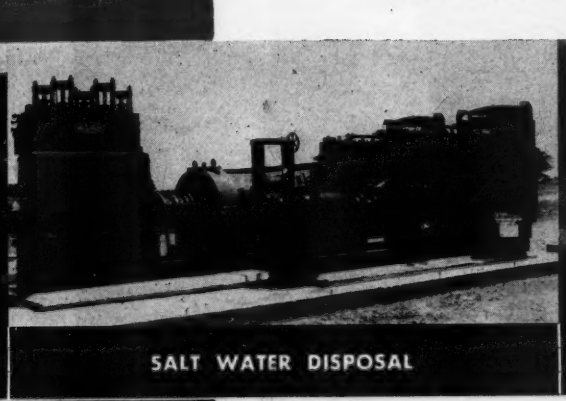


PIPELINE PUMP



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PACIFIC COAST DIVISION—5959 So. Alameda, Los Angeles 1, Calif.

G.P. to Build $35,000,000 Refinery in Washington

General Petroleum Corporation will build the first, modern full-scale oil refinery in the Pacific Northwest. The $35,000,000 plant will be located on the Puget Sound near Ferndale, Wash., 12 miles northwest of Bellingham.

R. L. Minckler, General Petroleum's president, said the new refinery will use 35,000 barrels per day of Canadian crude oil, brought by pipe line from the Alberta, Canada, oil fields.

The crude oil will move through the 711-mile Edmonton to Vancouver 24-inch pipe line now being built by the Trans Mountain Oil Pipe Line Company of Vancouver. A special $2,750,000 40-mile extension will be built by Trans Mountain to the General Petroleum refinery.

Minckler said construction of the new refinery will begin as soon as necessary permits are obtained from government agencies and engineering work is completed. It will be completed in the Fall of 1954.

The decision to build a new, full-scale refinery in the Pacific Northwest was reached, Minckler stated, because of the assured supply of petroleum products it will give to the people of the region.

"It is becoming increasingly difficult to find new crude oil reserves in California, which has always supplied the Pacific Northwest with petroleum. On the other hand the rate of oil finding in Canada has been at a very satisfactory level and we feel comfortable about the prospects for an assured supply from Canadian sources for a long time to come," the General Petroleum president said.

He pointed out that Alberta oil fields are closer to the Pacific Northwest market than California's. This favorable economic factor tends to offset the import duty on Canadian crude and the high cost of building such a large refinery.

Minckler said the new plant will be important from a national defense point-of-view.

"The installation will eliminate the exposure of tankers hauling oil products up the Pacific Coast from California. It will give the region a 'torpedo-proof' source of supply."

The 850-acre site near Ferndale, 12 miles south of the Canadian border, was chosen because "it provides the broadest possible benefits to all the people of the Pacific Northwest."

"The site," Minckler said, "meets the many complex technical requirements, is as close as possible to the Trans Mountain pipe line, and makes possible the most efficient distribution of products by economical means of transportation."

Contracts for engineering, designing and construction of the refinery are being entered into with the Bechtel Corporation, San Francisco.

Plans call for a "primary" distillation unit and four "secondary" processing units—a Thermofor Catalytic cracker, a thermal gasoline reformer, a thermal cracker, and a catalytic polymerization unit.

"This combination of processing units will make the Ferndale refinery one of the most modern and flexible refineries anywhere," Minckler said.

The refinery will have storage facilities for 2 million barrels of crude and products and docking and loading facilities for ocean-going tankers.

General Petroleum is the Far West affiliate of the Socony-Vacuum Oil Company, Inc. No newcomer to the Pacific Northwest, the company has marketed oil products

Crude oil for General Petroleum's new Northwest refinery at Ferndale, Washington will come through rugged Canadian Rockies country pictured above, from the huge, newly-developed Alberta oil fields. The Trans Mountain Oil Pipe Line Company is building a 711-mile, $86,000,000 "Super Inch" pipe line from Edmonton to Vancouver. A branch line will go south of the Canadian-U. S. border from Sumas, B. C., 40 miles to the new refinery on the Puget Sound, 12 miles northwest of Bellingham. The branch line will cost $2,750,000 and will be built in the Fall of 1953. The refinery will be completed late in 1954.

Fanfare at ten

Six evenings a week, as the hands of the clock point to ten,
there is a fanfare—a voice says: "And a good, good evening"—
and then, for fifteen minutes come the tidings of the day,
collected from around the world—edited to bring you the most news,
the really important news in the briefest time,
given voice over radio stations that cover the West—
known far and wide as the Richfield Reporter.

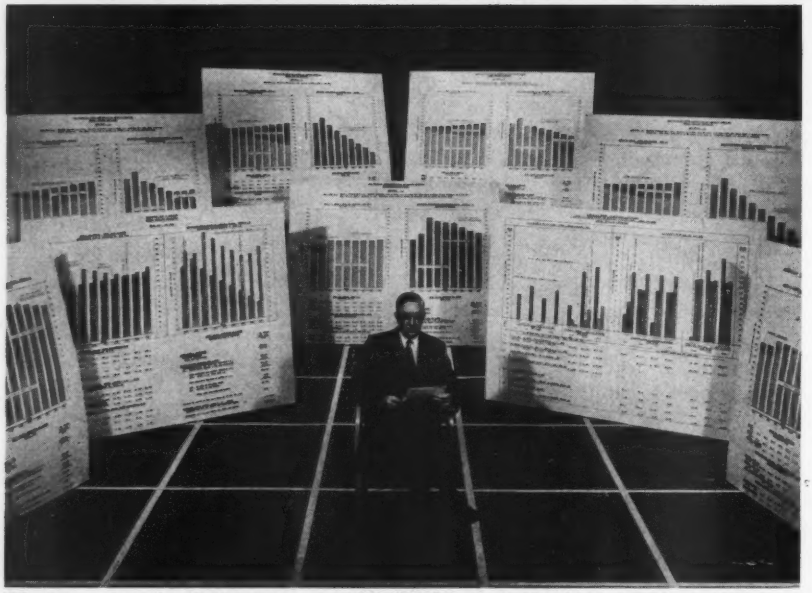
Here is a sound worth waiting for and listening to,
as millions know.

It is a part of the sounds that *are* the world today.

It is a sound that blends with the staccato of the
news teletype machine—with the whir of the printing press—
with the tramp of marching feet—with the roar of foundry
and factory beating out the wares of peace, the machinery
for war, the defenses of Freedom.

It is a steady, calm voice—unbiased by emotion, unslanted by
political consideration, uninfluenced by expediency.

It is a voice as well worth hearing now as it has been these
twenty-one past years. It is your Richfield Reporter—heralded now
as it was since April 21, 1931, by that Fanfare at 10.



What goes into the decision to invest $35,000,000? R. L. Minckler, president of General Petroleum Corporation, sits surrounded by some of the huge charts which contain the dozens of facts which had to be considered before the company's Pacific Northwest refinery at Ferndale, Washington was decided upon. General Petroleum experts in refining, transportation, marketing, economic and supply spent two years in developing the necessary facts to enable the decision to be made. The $35,000,000, 35,000 barrel-per-day plant will be completed in the Fall of 1954.

in the region since 1924. It also markets in California, Idaho, Nevada, Arizona and Utah.

An "integrated" oil company, it has exploration and production operations in California, Utah and Colorado. It operates pipelines and refineries in California. The company's home office is in Los Angeles, Calif.

New Aerial Shooting Technique Is Faster And Less Costly

Considrable interest was excited at the annual meeting of the Pacific Section of the Society of Exploration Geophysicists in Los Angeles recently by Dr. J. J. Jakosky's* disclosure of an aerial shooting technique in which a mortar is employed to project a high-velocity explosion to any predetermined height, between 50 and 600 feet. The method was subjected to investigation and test for three years in both field and laboratory before being turned to commercial use.

Particularly attractive features of the procedure are that it at once eliminates the need for expensive drilling equipment, shooting trucks, and water trucks, and subsequently by cutting drilling time, increases the crew output and reduces survey cost. It is estimated that under normal conditions of terrain, an aerial shooting crew can cover from 2½ to 3 miles a day of traverse line, using 1320 or 1760 foot split-spreads.

Dr. Jakosky pointed out that aerial shooting is no new idea. In this connection he cited the work of Burton McCollum who suggested kites, balloons, or airplanes to elevate the explosion to a height at least as great as the depth of the reflecting stratum and preferably several times that high; and Dr. T. C. Poulter whose method has been widely publicized—it utilizes a pattern of charges that are exploded at 8 to 15 feet above the ground.

The Jakosky procedure, on which patents are pending in the U. S. and foreign countries, neutralizes much of the detrimental effect of ground roll and other interference normally encountered in aerial shooting, by controlling the height of the explosion between the two extremes already mentioned, i.e. 50 to 600 feet. There is then an upper and lower limit within these extremes between which, for each type of area, the optimum reflection-interference ratio may be obtained.

Investigation of various means of elevating the charge to the proper altitude finally resulted in the choice of the mortar method which, for seismic work, offered a number of important advantages, both operational and economical. Control of the explosion height was also the subject of much study. It was found, for example, that inequities in time-delay caps precluded their use and that variations in muzzle velocity were responsible for errors of intolerable dimension so that any species of time control had to be ruled out, and the procedure later described was adopted.

It should be explained first, perhaps, that the bomb which carries the explosive charge is made from canvas impregnated with plastic, the ends being made from a specially selected thermal-setting plastic, and the lower end particularly being of cellular construction with a platform to provide a shock insulating medium between explosive and propellant. No metal is used in the construction of the bomb which under the high explosive stresses disintegrates completely, thus obviating the danger of people or animals being injured by flying particles. The charge consists of 10 to 12 pounds of high explosive.

The method of firing the charge at the appropriate level is simple, but rather ingenious. The firing squib and propellant, usually a low velocity powder, are placed in the lower end of the mortar, and the bomb, with its detonator cap is placed above them. The squib is connected through the firing circuit with one arm of a dual blaster. The detonator cap is connected by a light weight, insulated, duplex firing line to a special switch. The duplex conductor is fastened at its upper end to the bomb case and at its lower end to the firing switch which in turn is connected to the other arm of the blaster. The slack is wound in the form of an Archimedan spiral and the total length of this cable obviously determines the height at which the bomb will be fired.

The frequency spectrum generated by the bomb depends largely on the manner of its construction and the properties of the explosive. Design is thus an important matter. As for the explosive, a high velocity material will generate more high frequency components than a low velocity material, and the high velocity material will also generate a steeper wavefront. This will result in a total shock wave with a greater proportion of seismic energy. Part of this energy, however, may be comprised of frequency com-

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Ample Weight Adjustability—without adding loose parts or changing the streamlined contour. Pockets built into the MULTIPLEX can be filled with lead to meet weight requirements. Weight can be increased as much as 20% over unweighted Blocks—is easily removed whenever desired!

Space Saving Compactness—combines Block, Hook and Link Ears in one close-coupled unit that is both short and unusually narrow, (special narrow-width bearings—no spacer plates). Compare MULTIPLEX dimensions with *any other* Block-and-Hook of same capacity!

Rugged Body Construction—entire load carried on internal framework of heavy rolled steel plates. Outer shell is completely free of load stresses!

All-In-One Connector—self-locking Hook for swivel bail, locking type Link Ears for elevators, both in one spring-loaded unit that swivels full 360° or can be quickly locked in any of 8 equi-spaced positions!

Low Center of Gravity—assures proper balance while running, steadier Block travel, greater working efficiency!

Double-Row Tapered Bearings on *each* sheave carry full radial and thrust loads!

Individual Grease Ducts—machined into center pin, assure positive lubrication to each bearing from conveniently located external fittings!

Close-Fitting Guard prevents lines from jumping sheaves—also permits threading Block without removing guard. Or where lines are looped in rig, guard can be easily removed for reeving!

Completely Streamlined—even bolts, pins and grease fittings are fully recessed and protected!

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ponents that accentuate random interference.

The bomb is so contrived that when the effective frequencies of the predominant energy components strike the earth's surface, they are within that frequency band which will allow maximum transfer of energy through the weathered zone and will at the same time give optimum reflection efficiency.

According to Dr. Jakosky, there are usually in aerial shooting certain manifestations that diffuse or mask the significant reflections. The duration of these masking effects is a function of the position of the shot and the spread length—the higher the elevation of the explosion, the shorter the duration of the masking effect, and, by the same token, the greater the off-set distance, the shorter the masking time. As a result of the work so far done in air shooting by this method, it has been established that the proper height for the explosion is one at which the horizontal component of velocity of the air wave is different from the phase velocity of the ground wave through the surface layer. That level apparently varies for different type areas, but can be quickly determined for any set of conditions.

Aerial shooting crew in the field. No drilling truck, shooting truck or water truck is required for this method of shooting. Note the bomb exploding in the air—the effective height range is between 50 and 600 feet.

Various types of interference were discussed by Dr. Jakosky in his presentation, and seismic reflections secured under a variety of conditions were analyzed. A method of determining the depth and velocity through the weathered zone was also defined. This consisted of making a shallow refraction shot at the point occupied by the mortar, using about two pounds of explosive attached to a small stake. The depth and velocity through the weathered zone is calculated directly from the first arrival times and is thereafter used to correct first arrivals from the two sides of the spread.

The entire process is a development of real consequence to both the oil finding scientists and to the petroleum industry at large. For the exploration group, it promises a faster and less expensive means of geophysicising in those areas in which sufficiently clear recordings can be obtained by the air shooting technique. For the petroleum industry, it greatly extends the territory accessible to geophysical exploration which is certainly a consummation much to be desired at the present time.

There is little doubt that as further experience is acquired in the development of equipment and in the procedural details of the method itself, adaptations and improvements will take place and aerial shooting will evolve from its current "novelty" status to a generally practised and approved method.

*President of International Geophysics, Inc., and author of "Exploration Geophysics."

Palmer Stendel Plans Expansion

Palmer Stendel Oil Corporation of Santa Barbara is planning to embark upon important field expansion work in several directions, according to Zambry P. Giddens, who became president of the company last September.

Giddens made known that the company is moving to put back on production 13 wells at East Cat Canyon which have been standing shut-in due to the prevailing low prices for heavy gravity crude oils.

In addition to approximately 2500 acres of fee-owned land in the Cat Canyon area, Palmer Stendel shares interest with Union Oil Company in the 160-acre Blochman lease, where wells completed from 1911 to 1915 started off at the rate of thousands of barrels of oil daily. One well came in 38 years ago for more than 7000 barrels a day.

Giddens also announced that the company is preparing to acquire producing properties elsewhere in California and in the southwestern part of the country, including Oklahoma, Gulf Coast and west and north-central Texas.

Z. P. Giddens

Company drilling plans are also hanced by the fact negotiations have been opened for the launching of a deep test at California's Cat Canyon, the oil executive reported.

Lambert Try Written Off

Having tested wet near bottom at a depth of 7501 ft., D. D. Feldman Oil & Gas has written off its National Gas Corp. Kuhn No. 1 wildcat on Sec. 6-5n-5e in the Lambert area, Sacramento County. In the FFreeport area, Standard Oil's Simms Comm. No. 2 on Sec. 18-7n-5e continues to drill at 3740 ft.

The Meritorious Service Medal of the American Gas Association, the highest honor the gas industry can bestow upon an individual for outstanding bravery, has been awarded Everett L. McDougal of Los Angeles. McDougal, construction foreman and welder for Pacific Lighting Gas Supply Company, rescued a fellow worker from a burning gas line in an excavation when a dip was being installed.

Seek a busy man...

You've probably heard the old adage, "If you want to get something done, seek a busy man."

Through the years that phrase has pretty well held true whether you're talking about an individual . . . or a business. The busy company like the busy man will invariably find ways to do a job more quickly, more thoroughly, more efficiently—with a minimum of fanfare or waste motion.

If a company is busy, it's usually because it has proven to its customers that it can get the job done better than the next one . . . and as a result, it continues to grow and prosper.

That's pretty much the story of the oil industry which has proven to the American people that it can locate, produce, refine, transport and market petroleum products more quickly, more efficiently and more cheaply because it is part of a free economic system—it has the incentive to make good.

Remove economic freedom and you destroy the incentive. Destroy the incentive and pretty soon a busy person, or company or nation ceases to be busy and, left to idleness, will eventually decay.

Let's keep the incentive alive . . . let's get the job done . . . let's keep America busy!

GENERAL PETROLEUM CORPORATION
(A Flying Red Horse Company)

Personalities IN THE NEWS

Borden Appointed California Manager for Sunray

F. W. (Dick) Borden, Los Angeles, Calif., has been named manager of the California District operations for Sunray Oil Corporation succeeding R. E. Foss, recently transferred to the company's general offices in Tulsa as vice president and manager of the company's exploitation department. Borden's appointment was announced in Tulsa by Sunray's President W. C. Whaley.

F. W. Borden

Borden joined the company in 1930 as a roustabout, working as pumper, gauger, and field clerk in various California areas until 1933 when he became gasoline absorption operator. He later served as drilling engineer and production engineer until June, 1938. He served as a production foreman from that time until January, 1945, at which time he became production superintendent of the company's Rancho San Francisco lease at Newhall, Calif.

In 1948 Borden became general production superintendent in charge of all the company's California production operations and in May of 1952 was appointed general superintendent of the California district, succeeding Foss in that capacity when Foss was named general manager of the district succeeding W. C. Whaley, formerly of Los Angeles, who went to Tulsa as president of Sunray Oil Corporation at that time.

Borden is a graduate of the University of Nebraska college of engineering.

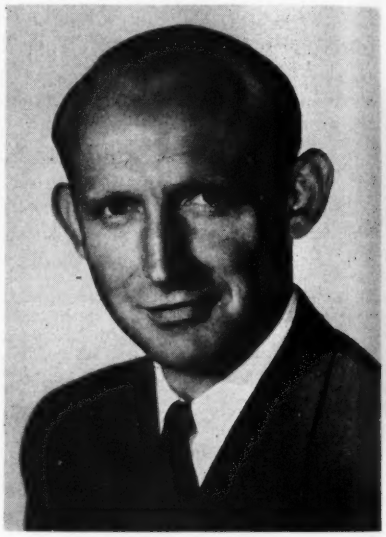
Herb Caen, San Francisco Examiner columnist, evoked chuckles with the yarn following: "Carmen Dragon, who conducts the Standard Hour on TV, went up to the music room in the Standard Oil Building here to listen to some transcriptions—and something was wrong with the phonograph. Needed oil . . . So Carmen tramped up and down the 22 floors of the great oil headquarters, looking for a can of oil. Did he find it? Of course not. If he'd found it, would this be an item?"

The Society of Exploration Geophysicists, convening at Fort Worth, Texas, for its sixth annual Midwestern meeting, awarded a life membership to William W. Butler, geophysical supervisor of Tide Water Associated Oil Company, Houston. Butler won the prize for submitting the winning design in a contest to obtain an official crest for the society. The award, represented by a life membership card, was presented to Butler by Curtis H. Johnson of General Petroleum Corporation at Los Angeles, SEG president.

Two of the top speeches at the American Petroleum Institute convention in Chicago were made by California oil leaders—Standard's Ted Petersen and Shell's Sam Bowlby.

Lauterbach Named Manager of G.P. Washington Refinery

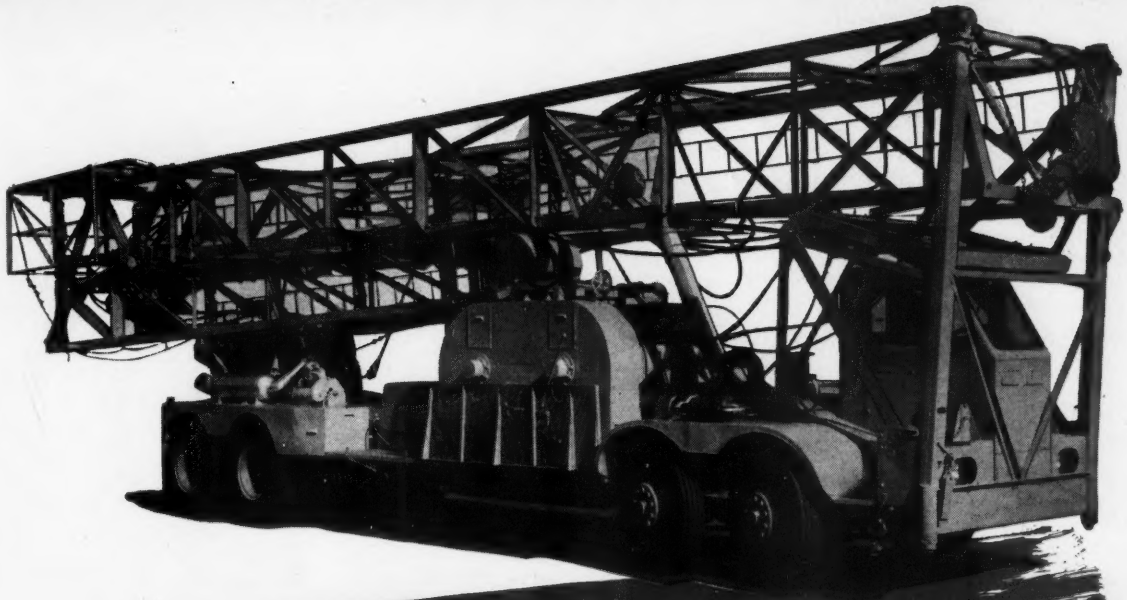
Richard E Lauterbach has been named Manager of the newly announced $35,000,000 Pacific Northwest refinery to be built in Ferndale, Washington, by the General Petroleum Corporation.



R. E. Lauterbach

Lauterbach is at present Assistant Manager of General Petroleum's Torrance, California, refinery. For the initial portion of the two year construction period of the 35,000 barrels daily Ferndale refinery, Lauterbach will make his headquarters at General Petroleum's home office in Los Angeles. As the construction project, which is being undertaken by the Bechtel Corporation progresses, he will move to the Ferndale area.

Lauterbach is a native of San Diego, California, and a graduate, with honors in chemistry, of the University of California at Los Angeles. He joined General Petroleum immediately following graduation in March, 1936 as a laboratory assistant. He became a chemical engineer in 1939 and for the next six

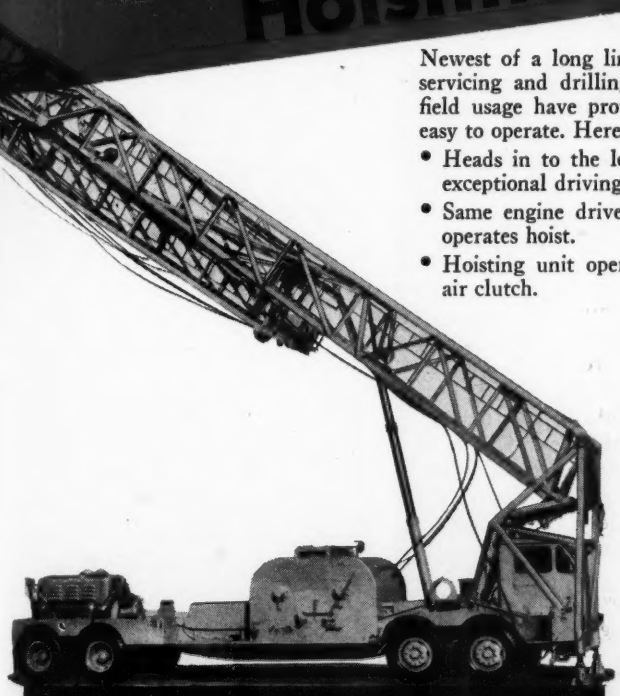


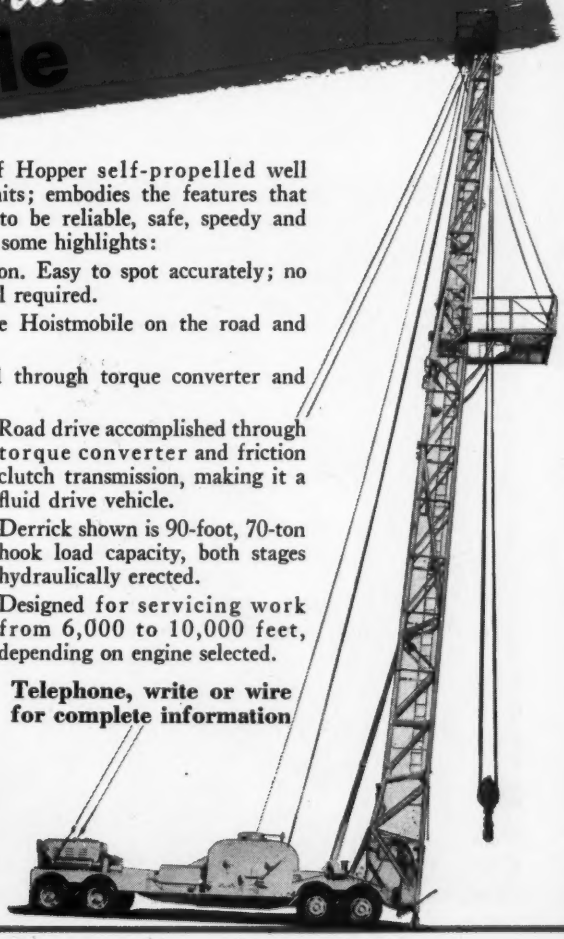
35 Years of Experience BRING YOU THIS "New HOPPER Drive-In" Hoistmobile

Newest of a long line of Hopper self-propelled well servicing and drilling units; embodies the features that field usage have proved to be reliable, safe, speedy and easy to operate. Here are some highlights:

- Heads in to the location. Easy to spot accurately; no exceptional driving skill required.
- Same engine drives the Hoistmobile on the road and operates hoist.
- Hoisting unit operated through torque converter and air clutch.
- Road drive accomplished through torque converter and friction clutch transmission, making it a fluid drive vehicle.
- Derrick shown is 90-foot, 70-ton hook load capacity, both stages hydraulically erected.
- Designed for servicing work from 6,000 to 10,000 feet, depending on engine selected.

Telephone, write or wire for complete information





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New York • Los Angeles

years worked in the company's Laboratories Department in that capacity.

In 1945 he was assigned to the Torrance refinery as a refinery engineer. He became Assistant Manager in 1950.

Lauterbach is a member of Phi Beta Kappa, and two honor societies for chemistry graduates. He is also a member of the American Chemical Society.

Ted Sutter Receives Baker Service Award

Baker Oil Tools, Inc., recently presented Ted Sutter, its general manager and executive vice-president, a service pin award signifying that he had completed 30 years of service with the company. The award was made by R. C. Baker, Sr., founder and president of the company, at the eleventh annual service pin award banquet held at the Huntington Hotel, Pasadena.

Ted Sutter started with the Baker organization in 1922 as office manager. In the succeeding years he has held a number of key positions with the company, including that of secretary-treasurer and sales manager. He has also been active in oil industry affairs while with Baker, having held important offices in the American Petroleum Institute, Petroleum Production Pioneers, Nomads, and Petroleum Equipment Suppliers' Association.

During the banquet awards also were made to 55 other Baker employees of the Western Division, representing full periods of service of 5, 10, 15, 20, and 25 years. Similarly honored were 29 Baker employees of the Central Division at another banquet held in Houston.

At the banquets it was revealed that the number of Baker employees with 5 or more years of service was 312 out of a present total of 970.

Southern California and San Joaquin Valley oil development was the focal point of interest of Texas Oilman Frank McHugh on his recent sojourn on the Pacific Coast.

Bill Benoist of Long Beach, who for many years has served the industry with notable oil field cleanup work, as a diversion raises Appalossa horses, the oldest breed of neigher known. One of Bill's horses won the national grand champion ribbon at the National Appalossa Horse Show and another of his big colts took second place.

Ted Sutter (at left), general manager of Baker Oil Tools, Inc., receives 30-year pin award from R. C. Baker, Sr., founder and president of the company.

Pictured above is A. A. Jensen, newly appointed general sales manager of the J. B. Gill Company, constructors and engineers, with offices in Long Beach, California and Tulsa, Oklahoma. Mr. Jensen's previous experience and activity have been sales and sales direction in steel fabrication and supply organizations.

J. A. Miller and H. F. Galindo of the California Research Corporation at Richmond, a Standard of California subsidiary, were principal speakers at the national convention of the Society of Automobile Engineers at Tulsa, Oklahoma. They chiefly discussed newly developed synthetic oils.

Oilman Arthur C. Stewart heads the directors as president this season of the beautiful Shadow Mountain Club at Palm Springs.

Antoine F. Lacomble, 58, retired chairman of Shell Oil Company, died in San Francisco. A prominent San Francisco civic and social figure, Mr. Lacomble was born in Holland. He joined the Shell company in 1920, came to California in 1926 and rose through executive ranks to become president of Shell Development Company from 1943 to 1948. He was chairman of the board when he retired in 1950.

The appointment of Homer Laughlin as advertising manager of a newly created, separate advertising department for Southern Counties Gas Company at Los Angeles, has been announced by Vice President Frank B. Wright.

Oil helps make him master of space...

He's a "Buck Rogers" compared to the World War II pilot. He maneuvers at altitudes and speeds which pilots of propeller-driven craft are unable to match. He can do this because jet engine manufacturers, the military services, and the oil industry worked together to develop jet aircraft operation. Here and around the world, jet aircraft is being powered and lubricated with products produced by The Texas Company.

The Texas Company

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Faithfully yours 1902 | 1952 *for Fifty Years*

Ed Dewey Joins Fluor

J. E. McKay, Manager of Advertising and Sales Promotion, has appointed Ed Dewey Supervisor of Sales Promotion for The Fluor Corporation, Ltd., Los Angeles engineers, constructors and manufacturers for the petroleum, gas, chemical and heavy industries. For six years Dewey has been with Dozier-Eastman and Company, Los Angeles industrial advertising agency, and for the past four years he has been account executive servicing Fluor advertising, merchandising, sales promotion and a recruiting drive for skilled help in Saudi Arabia.

Ed Dewey

Dewey received his basic sales promotion and advertising training at Columbia University in New York City. He worked as an oil field representative for Jones and Laughlin Supply in Tulsa; for Republic Supply of Texas; as a feature writer for Oklahoma newspapers; and as an account executive for Rogers Gano and Gibbons Advertising Agency in Tulsa, where he serviced oil tool and refinery equipment manufacturers. During World War II Dewey served in Africa as technician of gyroscopic flight instruments and for two years with the aviation division of the Marine Corps.

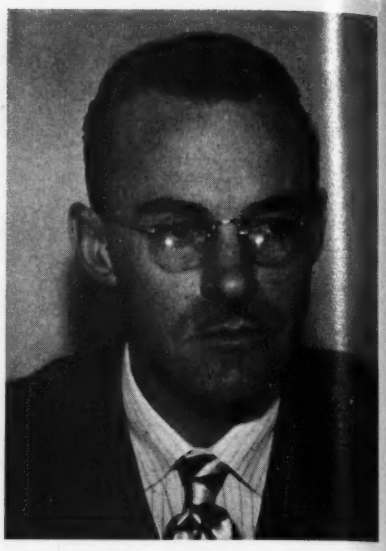
He is well known in advertising circles, having served as a past officer of the National Industrial Advertising Association of Southern California.

Kern County Oil Information Committee

W. R. "Bill" Winton of Palomar Oil and Refining Corporation has been elected chairman of the Kern County Oil Information Committee for 1953, succeeding F. R. Schmieder of Shell Oil Company.

Other officers for 1953 include George Suman, Tide Water Associated Oil Company, vice chairman at large; E. E. Wall, Standard Oil Company of California, vice chairman of industry participation; W. A. Dewire, Conservation Committee of California Oil Producers, vice chairman of programs and speakers; W. W. Alving, General Petroleum Corporation, vice chairman of press, radio and television; W. J. Prosser, Standard Oil Company of California, local community advisory chairman; W. M. Frizell, General Petroleum Corporation, local community advisory chairman; H. T. Egliht, Shell Oil Company secretary; and Neal Rafferty, General Petroleum Corporation, assistant secretary.

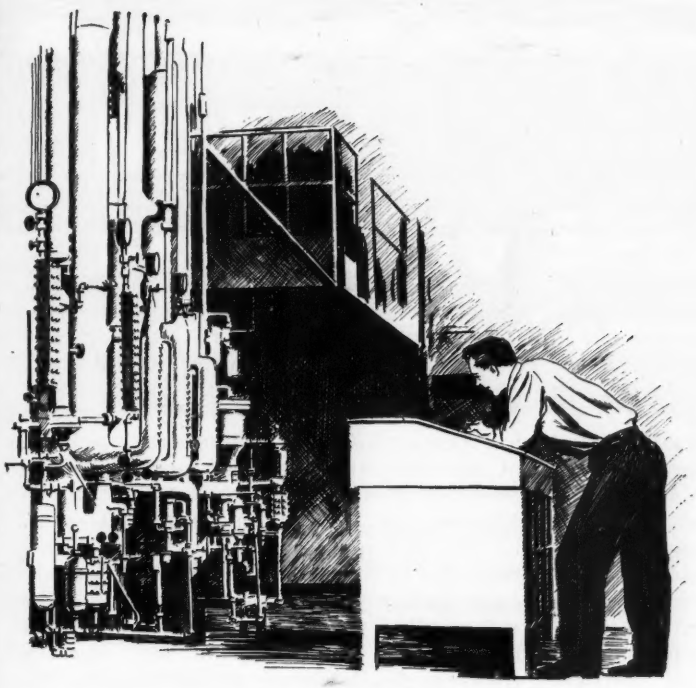
Bill Winton was active on the first Kern County Oil Information Committee in 1949, serving as chairman for speakers and programs for two years. He was in charge of radio and press work before becoming chairman of the 1953 committee.



W. R. Winton

Bill has been with Palomar since March 1938, and is secretary-treasurer of the corporation. Palomar's Fruitvale refinery primarily manufactures diesels, lubricating oils, road oils, asphalts and specialties such as spray and weed oils. Bill is a member of the American Petroleum Institute, chairman of the oil committee of the Kern County Board of Trade, and a member of the Transportation Association of America.

Pictured above are the new officers of the Pacific Section of the American Association of Petroleum Geologists. Left to right: Russell R. Simonson, Ohio Oil Co., Los Angeles, President; Rufus M. Smith, Continental Oil Co., Los Angeles, Vice President; Robert G. Maynard, Sunray Oil Corp., Los Angeles, Secretary; Tom E. Folsom, Honolulu Oil Corp., Los Angeles, Treasurer.



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The science of translating ideas into practical refining processes is a phase of Universal Service that has enhanced the economics of the petroleum industry. Through pilot plant studies, Universal not only determines the commercial worth of new processes but also evaluates charge stocks from fields all over the world. These continuing studies have contributed to the advancement of methods and the improvement of products from petroleum.

Critical analyses of pilot plant tests enable Universal technologists to provide the process most adaptable to the charge stock involved . . . to assemble design data . . . and to provide accurate advance information on the costs of plant construction and operation — another way in which Universal Service Protects Your Investment.

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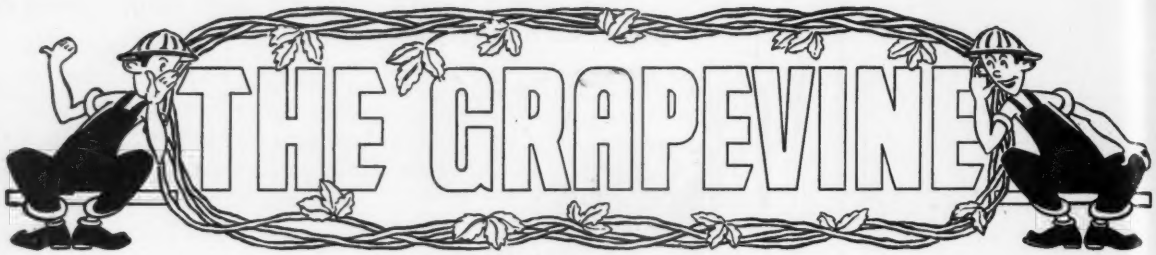
Universal Service Protects Your Investment through laboratory research . . . pilot plant studies . . . design and engineering . . . construction supervision . . . licensee instruction . . . post on-stream service . . . collateral services.



It is rumored in the derrick groves that Tom Murray, the eminent Fullertonian, is at the present time over in Scotland teaching the Caledonians how to really burr their "r's". It's a long time since Tom left the land of the heather and the haggis but he has lost none of his Gaelic attributes. His speech is still liberally tinctured with "ayes" and "ochs" and we suspect that he takes usquebaugh with his porridge. Indeed, he has all the generally recognized characteristics of his race and when he returns we intend to borrow an interpreter and hie out to Fullerton for an interview. Meantime we are told that the youngsters out Fullerton way still think Tom is the greatest guy that ever lived. Tom teaches them to swim about the time they are able to walk and in the process makes more friends among the small fry than do Roy Rogers and Trigger combined.

Al Stevenson, the noted Long Beach oil operator who also operates successfully in the gin rummy market, was the victim recently of a very unfortunate accident. It appears that he had a swimming pool built on the Stevenson estates a short time ago, and was so eager to begin his natatory exercises that he dived into the water before the water was quite there, if you know what we mean. The result is that he now goes about his business with a swath of bandages on his head like a turban, and is being generally hailed as Aly Stevenson. Well, anyway, here's hoping that Al will soon be restored to his customary vigor and good looks, and that manufacturers of swimming pools will give some serious consideration to the idea of equipping them with sponge rubber floors in order to neutralize the frenzied ambitions of those who leap before they look.

L. L. Aubert, chairman of the PPP nominating committee, which consists of Jim Gosline, the expatriated Santa Paulan; Sam Bowlby, the Shell top man; Earl Daniels, the Hydril ambassador; Russ Green, the Signal Oil & Gas Company executive; Henry Grinnell, the first prexy of the pioneer group and one of its founders; and A. C. "Cy" Rubel, current president; has come up with an interesting slate of new directors, as follows: Junior Directors: Howard Pyle, president of Monterey Oil Company and a real up-and-comer in the oil industry; Paul Andrews, the Signal Oil & Gas Company engineer who has already done such excellent work as historian that he is being run for a second term; Ben Anderson, the Continental production chief, also being boosted for a second term because of his good works; Jim Hughes, the capable and pleasing Lane Wells sales head, who has functioned with distinction as entertainment chairman of the Pioneer group; Don Grubbs, Oil Well Supply Company's lead man, also a stout supporter of the Pioneer organization; and Dick Von Hagen, the gentlemanly Lloyd Corporation executive, who has the sort of administrative capacities that should fit him nicely for a place on the PPP board.

For senior directors, two sterling characters have been named, in the persons of M. O. Johnston and Archie MacDonald. Mo, as he is called by his friends, is widely known throughout the industry so it is hardly necessary to attempt an introduction here. He recently sold his interest in the firm that bore his name and now occupies an office in the Security First National Bank Building in Glendale so as to be close to the Verdugo Club. He is a native of Palo Pinto County, Texas, and a few years ago took a trip back there to see how things were developing—but, in his particular area, they weren't. It was a hot, dry, dusty day when he landed, and after traipsing about in the mesquite for a while, he became very thirsty. Walking up to a decrepit looking shack, he knocked at the door and an extremely slatternly lady responded. If anything, the lady was even more decrepit than the shack. She was, in fact, so bedraggled and altogether unappetizing that when, in answer to his request for a drink of water, she brought out a bucket and a dipper, Mo cautiously picked the dipper up in his left hand, and drank out of what he thought was "the other side." Imagine his chagrin, however, when his hostess remarked, "Well, I declare, so you're left-handed, too!"

The other nominee for senior director is that prince of entertainers, Archie MacDonald, the forward half of MacDonald and Burns, and one of the best purveyors of smoked tuna fish on the west coast. Archie is not only a successful deep sea angler but in his day had the distinction of being the grossest shooting golfer in the Nineteeners. He once took 22 on a 3 par hole at Wilshire and would probably have done even better than that but he got bunker sand in his eyes and accidentally hit the ball. There were few divot lofters in this area, indeed, who could even compete with Archie in the high gross class and we are told that his total scores were often picked up by the Department of Motor Vehicles to be used for license numbers. He doesn't play the game today but there is nothing he loves more than to sit with a few cronies around a platter of smoked albacore and tell them about the places he has visited on golf courses.

We tagged out to Whittier a few Sundays ago for the opening of a nice new medical center on East Hadley Street, in which our dentist son-in-law, Dr. Breene Murphy, has a suite, and who should we meet first go off the bat, but Johnny Sherborne and his good lady. Johnny was just back from the API convention in Chicago, and he told us that Ray Zell and Charlie Perkins did themselves proud in their respective speaking engagements which, of course, is no more than we would expect, but it is always nice

BOWEN RELEASING SPEARS

Have a Perfect Releasing Mechanism

Bowen Releasing Spears not only insure the ability to pull the fish but also permit *release* at will. In the releasing position, there is no possible means of forcing the slips outward. The slips are in a neutral slot which insures that they cannot be expanded to contact the fish.

For inside-the-pipe jobs

For your inside-the-pipe jobs and for holding liners and casing while landing, this efficient spear—with only six simple parts—gives a positive internal grip on the pipe. Easily withstands hours of steady jarring, yet release has never been known to fail because of its *perfect releasing* mechanism.

Meets every fishing requirement

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An operating manual which illustrates and describes the Bowen Spear in detail and covers its operations and maintenance on the rig is available on request. Send for this Helpful Booklet today!

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to have your ideas confirmed. We might remark in passing here that we once sang in a barbershop quartetting contest with Johnny Sherborne and only lost because of a fiercely biased referee who, even if he were in the fire station, couldn't have heard a siren blast without the aid of an ear trumpet.

Another chap—just returned from the drafty shores of Lake Michigan—and now attending the open house with his lady love, was Marion Dice, the General Petroleum Corporation economist. He remarked very cutely how interesting and pleasing it was that we should meet in a doctor's office when neither of us was sick. He also remarked that Oscar Chapman managed to go through his entire speech at the Convention without once referring to tidelands, which is quite a trick for a secretary of the interior. In the course of our visit we stumbled into Mr. & Mrs. Harold Yackey, the former an old associate in Union Oil Company, with whom and his twin brother, George, we had more trouble than enough. This pair are more identical than any set of identical twins we have ever seen, and when we worked out of the same office as Harold, we were everlasting slapping George on the back and shouting, "Hiya! Harold, old thing! How's tricks?" George actually didn't know us from the Duke of Doughnuts and so for this performance, we usually garnered a frosty look which said a great deal more plainly than words, "Whassa matter, bub, you crazy or sump'n!"

We hear that Earl Gaylord and Cy Rubel have been appointed on an editorial committee, headed by D. B. Carter of the Magnolia Company, to do a history of petroleum engineering. That should be an interesting project. There are a lot of people who scoff at the history idea. Jean Babtiste Rousseau once defined it as "the art of choosing from among many lies that one which most resembles the truth," and Voltaire, another impetuous Frenchman said, "it is nothing but a batch of tricks we play upon the dead." But, personally we believe there is no more exciting or stimulative reading than historic accounts of those practices and processes with which we are now concerned. Certainly it would be difficult to find anything that has more markedly affected the ways of the human race than petroleum, and nothing has meant more to the effective and economic production of petroleum than that branch of engineering which has converted production from a hazard to a science.

Had a lunch date with Bob Roberts, the Standard of Cal public relations expert, the other day and was given a lesson in the finer points of gin rummy. The following day while still reeling from the shock, we had lunch with Herb Reed, the Standard of Cal land chief, and, bless our soul, if we weren't given the same lesson all over again. Which suggests that perhaps we should warn our neophytic friends to beware of the Chevron type of gin rummy—it is more destructive than the hooded cobra. And, for the benefit of those who are quite unfamiliar with the game, we might explain that gin rummy is a comparatively recent development in the ancient art of getting nothing for something. It is one of the fastest forms of pecuniary mayhem yet devised and can reduce a strong man to quivering jelly in slightly less than a brace of shakes. One of the best ways to play the game profitably is to be your own totalizator. We have never seen a mathematician yet who could decipher the Reed hieroglyphics and we have never seen Herb the slightest bit disturbed by that fact. It may sound a bit ridiculous but once a Petroleum Club waiter picked up a Herb Reed tally sheet and took it down to the kitchen. Without the least hesitation, the chef dished him up one order of scrambled eggs and kippered herring.

We have noticed on divers lunch occasions that these inseparables, Ernie Bysshe and Milt Barratt, former Cleveland Oil biggies, get themselves enmeshed in a domino joust with a pair of sharpies, namely and to wit, Fred Hanson, the astute banking chap, and Bill Geis who could easily have been a banker, too, if he had saved his domino winnings. This feud is ordinarily productive of more conversation than is a meeting of the United Nations Security Council, and although at first we feared that the Bysshe & Barratt duo, being comparatively new at the game, might be laid waste by the cyclonic Hanson-Geis coupling, we are now pleased to report that they are still standing toe to toe, slugging back with an amazing succession of short jabs to the pegging board and it is just possible as we go to press that the bankers, actual and could-be, may be obliged to toss in the towel.

By the way, we understand that Milt Barratt went back to the API Convention, thence to Grand Rapids, Mich., for a powwow with Charlie Hale, president, and member of the board of directors of Great Lakes Oil & Chemical Company, and finally proceeded to New York on some other business. While in Grand Rapids he consulted and counseled at length with Charlie Hale and he tells us that Charlie is coming out to Los Angeles in December to check up on the Cleveland Oil Company operations. We shall expect big doings at that time, for wherever the livewire Great Lakes O & C prexy alights for any length of time, something of consequence always happens.

Out of Chicago comes word that Alexander Hamilton Bell, the noted artist and drilling contractor, who journeyed back with his lovely helpmeet on the oil men's special, won an exciting debate with a large hotel, on the subject of reservations, hands down. Ham was never one to stand idly by while the stream of life scurried past. When anything is happening, he likes to be in on it, and he usually is. He also dislikes sitting around hotel lobbies when there are things going on upstairs. Thus, when he found his reservation jimmed up, he resorted to the use of the most expressive vocables he knew—not profane, mind you, just profound! And Ham, be it known, is no slouch, either in the matter of diction or vocabulary, so it is needless to say, his argument prevailed. Incidentally, Ham and Dorothy did a lovely job of hosting the AIME dinner dance a few weeks ago, and it is still being widely touted as the social affair of the year.

The Nomads Inaugural Ball is set for February 14, in the Pacific Ball Room of the Statler Hotel, and a very fine executive committee makes this convocation a cinch to be bigger and better than ever. Joe Schlarb, the always friendly Chiksan chap is general chairman, and he will be aided by Bill Bettis, in charge of the banquet and arrangements—it would be tough to find a better arranger; John Flanagan,

Fred Sperber, Bakersfield petroleum engineer, is a native of Hollister, California; spent his youth on a ranch in Santa Ana Valley; and actually became one of the nation's top sack sewing sharpies, beating all competitors and being named county champ when he sewed up 1190 sacks in 7½ hours. He attended Hollister Junior College where he quarterbacked on the varsity football team, and thence proceeded to University of California, from which he graduated in 1936 with a degree in petroleum engineering. Immediately thereafter he journeyed to Fellows and began work for C.C.M.O. Company, under district engineer, John Stevens.

About that time he started on a vacation trip to Hollister one day and managed to get as far as Blackwells Corner when car trouble developed and he was obliged to leave his Model T by the wayside. When he returned some days later with the necessary spare parts, the incipient hot-rod was gone, and, believe it or not, he found it just recently—15 years later—in a sheep pasture at Devil's Den, while he was doing some field work.

Fred stayed with CCMO for 9 years, and when at the beginning of the second world war the company launched an extensive drilling campaign, he became so expert in

SACK SEWING CHAMPION

the interpretation of electric logs that coring almost became a lost art. In February, 1945, he began an association with E. A. Bender who had just made new discoveries at Round Mountain and Salt Creek. A year later, at the suggestion of his boss, he entered the consulting field and his first client was none other than E. A. Bender himself.

In the meantime, he has been busier than a hot dog salesman at a high school track meet and has been consultant on some very important projects. For Norris Oil Company, he handled the engineering work on Cuyama No. 2, first oil well ever completed in the Cuyama Valley. He was engineer on the Gene Reid well that discovered the South Pool at Kern Bluff, and the one that opened the Griggs Pool in Cuyama. He was also on the Larry Gould well that discovered the China Zone at Kern River.

Despite the press of business, however, Fred is one of these ultra-enthusiastic hunters who loads his own shells. When he goes a-fishing he makes his own flies, and when he creates a Royal Coachman, not even a Royal Coachman could tell it from a Royal Coachman. He builds model airplanes that actually fly and there are few who can coax sweeter chords from an obstinate guitar. When in need of exercise he hies to the nearby golf links and lashes the innocent sod until his biceps are as limpid as contented oysters. He, and his good lady, Helen, are very proud of son, Freddie, whose ambition at the moment is to be a truck driver on a large truck—preferably a red one.

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he of the black velvet hair, in charge of entertainment and we can personally vouch for his expertness in that business; Leo Cypher, guarding the exchequer—an old experienced hand at the game; Ray Humphreys, chairman of reception who will likely divide the guests into quartets, as they arrive, and give each one a chord to go on; and last but certainly not least, Wally Sawdon, in charge of ticket sales and stuff, will be there as usual with the mentholated ones on the left and the regular smokes on the right. He will tie all the loose ends together and do his normal worthwhile stint with the very minimum of fuss.

Union Oil Plant

(Continued from Page 6)

Two possible solutions to the problem of hydrogen attack consist of either eliminating the galvanic corrosion, or eliminating the cyanide ion promoter. The latter is the more simple and is effected by water washing the hydrocarbon streams for removal of the cyanide ion.

Figure 4 shows how this has been done in the Union gas plant. Treated water first enters the depropanizer overhead line and collects in the accumulator drum. From the depropanizer accumulator drum it splits into two streams, one going to each of the depentanizer overhead lines. From the depentanizer accumulator drums, the wash water flows to the main fractionator column overhead accumulator at the FCC Unit. A second wash water system consists of water from the bottom of the waste water stripper. This stream splits, a portion going to the compressor discharge from each unit. This water collects in the FCC and TCC compressor discharge drums and is returned to the FCC main fractionator column overhead accumulator drum along with the stream from the depentanizer overhead accumulator drums. The water from the entire system then goes to a settler for oil removal. From there it is pumped to the waste water stripper as shown in the diagram, where it is stripped with steam to remove hydrogen cyanide, ammonia, and hydrogen sulfide. The stripped gases are discharged through steam traced lines into a fired heater and burned.

(Presented before C.N.G.A. Annual Meeting.)

Oilmen J. P. Harper and James Andolino have purchased one of Kern County's famed landmarks—the Fox Hotel at Taft. The hostelry was purchased from Paul M. Vernon for a reported $200,000. An extensive improvement program is underway in the hotel, which for many years has been the rendezvous of representatives of all branches of the petroleum industry.

During recent weeks three more members of the Shell Oil Company in the Los Angeles area have returned to civilian status from the Army and Navy. They were James D. Elza, Jr., Richard E. Badger and William H. Shippee.

Field Development

Edison Discovery Good Recompletion

General Petroleum Corporation's Graham No. 41X-9 on Sec. 9-30s-29e, a new zone discovery well in the Edison area, has been recompleted with excellent results. Four half-inch holes were perforated in each foot from 4990 to 5020 ft. in the upper measure of the Pyramid Hills sand and the well recompleted for a present yield of 292 barrels of 41.5 gravity oil a day through a 14/64-in. choke, along with 162,000 cubic ft. of gas. The project was originally finished last September at a total depth of 5363 ft., flowing at the initial rate of 340 barrels of 38.7 gravity oil a day from the interval of 4955-4980 ft. in the Jewett sand. A 16/64-in. bean was in use.

Wheeler Ridge Wildcat Deeper

Tottering on the brink of abandonment may be the present status of Standard Oil's KCL-2 No. 356 wildcat on Sec. 28-11n-20w at Wheeler Ridge. The venture is down approximately 11,000 ft. and so far has been the object of three formation tests. They all lacked commercial showings. Location is about three-fourths of a mile east of Richfield's Eocene discovery well. Richfield has plugged back its KCL-D No. 16-28 test on Sec. 28-11n-20w from a total depth of 11,816 ft. to 10,285 ft. for completion attempt in the Eocene formation.

Pyramid Hills New Test Staked

Brookline Oil Company is ready to try its luck at Pyramid Hills in Kings County. It will drill Travma No. 1 on Sec. 8-24s-18e.

Greeley Field Extension Gained

Kern County Land Company's KCY No. 42-19 on Sec. 19-29s-26e gives every sign of having achieved an important extension of the Greeley field. On a formation test of 60 ft. of Stevens sand from 7850 to 7910 ft., the well flowed at an estimated rate of 50 barrels of clean 30 gravity oil a day. Location is only about one-quarter of a mile from production in the field, but the nearest wells are deeper and producing from the Vedder zone. It is also one-half mile west of California Standard's KCL No. 1 which proved up production at Greeley more than 15 years ago by drilling to slightly below 7800 ft.

McKittrick Outposts Dig

Under the sponsorship of Trico Oil & Gas Company two outpost tests are drilling in the Belgian Anticline area, southwest of the town of McKittrick. Stone No. 1 on Sec. 30-30s-22e is drilling below 1000 ft. Veon No. 81 on Sec. 25-30s-21e is preparing to launch operations.

W. W. Holmes as operator has just added another well producing in the San Benito area northeast of King City in San Benito County. The latest field success is O'Connor No. 3 on Sec. 33-17s-9e, which currently is pumping 70 barrels of 27.6 gravity oil a day from a total depth of 1695 ft. The operator's three wells in the area are putting out a combined 110 barrels a day. Rudolph No. 1 is the next test on the drilling program. It will drill 250 ft. south and west from the northeast corner of Sec. 4-18s-9e.

Paloma Test Probes Deeper

Deeper and deeper grows Ohio Oil Company's interesting and important deep test in the Paloma field. The project, KCL-A No. 72-4, is now drilling around 16,500 ft. in a trip that may persevere all the way to 20,000 ft. The Stevens was topped at this location at 10,040 ft.

Sutter County Wildcat Digs

Richfield Oil's Butte Comm. B No. 6 on Sec. 7-15n-2e on wildcat terrain at Marysville Buttes in Sutter County, a phase in the industry's tremendous hunt for new gas in Northern California, last was reported digging strenuously away at 3740 ft. The company will drill Butte Comm. B No. 5 on Sec. 4-15n-2e when No. 6 is finaled. In Sutter County's Sheffield area, Shell Oil Company is drilling its Stratigraphic No. 1 wildcat on Sec. 31-4n-2e. It is down 7800 ft. or thereabouts.

SC Petroleum Corp. May Enter Middle East

Although not as yet officially confirmed, Southern California Petroleum Corporation and its drilling division, Camay Drilling Company, may shortly share interest in a vast oil exploratory program on more than 2,000,000 acres of land in the Middle East. Oil circles from California to New York buzzed with reports to this effect.

Santa Paula Try Digs Down

Rocky Mountain Drilling Company has a contract rig on Standard Oil's Thorpe No. 81-30 wildcat on Sec. 30-4n-20w at Santa Paula. Drilling at last reports was at 1230 ft. At Lompoc, Murphy Bros., Ltd., is starting No. 3 well on Sec. 34-8n-34w.

Conejo Test Drills Ahead

Under the imposing banner of Continental Oil Company a wildcat known as Janss No. 1 is drilling on Sec. 3-1n-19w in the Conejo area of Ventura County. Present depth is 7680 ft.

San Joaquin Valley

Pattiway Area Attracts Drilling

The Pattiway area of Kern County, where Universal Consolidated Oil Company wildcatted the other month without success, is ready for a new coaxing for oil under the banner of Santa Fe Drilling Company. Santa Fe's Pancho No. 1 is in the proper shape to start drilling on Sec. 24-10n-24w.

Round Mountain Well Completed

Bishop Oil Company of San Francisco has completed its No. 28 well on Sec. 7-28s-29e in the Round Mountain field at a bottom of 1453 ft. Present yield is 15 barrels of 18 gravity oil a day, cutting about 40 per cent. The Pyramid Hills formation was topped at 1341 ft.

Midway Test Standing Idle

Inactive at a depth of 790 ft. is the last word from Joseph M. Gross' Phelps No. 1-A wildcat well on Sec. 29-31s-22e, west of Midway in Kern County. Oceanic Oil Company's General American No. 67-X test on Sec. 16-32s-23e at Midway is making rapid time with the drill at a depth of 890 ft.

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Palm Wildcat Digging Deeper

In the Palm area east of the Greeley field, California Standard is drilling below 6100 ft. with its KCL No. 32-12 test. It is working on contract with Pike Drilling Company.

Devils Den Adds Drilling

In the Pyramid Hills sector immediately north of the Devils Den field, Gilliland Oil Company and C. O. Davis are all set to drill their San Francisco and Fresno Land Company No. 10-3 wildcat on Sec. 10-25s-18e. The project will aim for production in the Escudo and Carneros sands.

Cuyama Valley Discovery Scored

Chalk up still another new pool for Cuyama Valley. It was fashioned by Richfield Oil Corporation's Russell A No. 15-9 on Sec. 9-10n-27w. Drilled to a total depth of 4190 ft., the project was plugged back to 3674 ft. for tests and at last reports was producing 143 barrels of 39.8 gravity oil a day through a 11/64-in. orifice. The drill site, about one-half mile east of production at the south end of the Russell Ranch, appears to be more or less framed by dry holes which were drilled previously. This may be a factor in limiting the extent of the new production. The Texas Company's Signal-Maxwell No. 1 on Sec. 19-9n-25w is in the preparatory stage.

McDonald Anticline Wildcat Flowing Oil

Ferguson & Bosworth has given the final touch to its Layman No. 10 test on Sec. 18-28s-20e in the McDonald Anticline area of Kern County for a present flow of 120 barrels of 24 gravity crude oil daily from a total depth of 2166 ft. Casing is set at 2092 ft. The Tolco sand was logged at 1585 ft., the Layman Two sand at 2028 ft. and the Buttonbed sand at 2084 ft.

Edison Test Begins Work

Southwest of Edison production, Monterey Oil Company is preparing to drill Franco Western-Handel No. 27 on Sec. 23-30s-29e. The play is for a new fault block discovery and production in possibly the Chanac, Santa Margarita and Schist within the scope of a 3000-ft. drilling trip. Monterey shares rights in the play with Franco Western Oil Company. At West Edison, Patrick A. Doheny has started the drill in his DiGiorgio No. 2 on Sec. 3-31s-29e. This is a short distance north of the first test. Crown Drilling Company's Jeppi No. 76-8 test on Sec. 8-30s-29e at Edison continues to drill on down at 840 ft.

Kings County Test Abandoned

Norris Oil Company's attempt for new production in Kings County's Pyramid Hills apparently was of no avail. Lucier No. 1 on Sec. 29-24s-18e cored gray sand from 752 ft. to bottom at 758 ft. and then was written off. G. Hamilton Beasley's Trane-Cass No. 1 is a wildcat location on Sec. 24-20-s-22e, six miles northeast of Corcoran.

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Buena Vista Try Off Board

On wildcat ground near the Buena Vista field, Golden Bear Oil Company has pulled out of its Chelmsford No. 1 on Sec. 17-31s-23e. Drilled to a bottom of 7317 ft., the venture on test of the interval of 3775-3885 ft. seemingly showed nothing at that point but mud and salt water.

Hollister Wildcat Digs

Some miles northwest of Hollister in San Benito County, Bailey Balken and A. D. Krug have started the drill in their Ferry Morse No. 1 wildcat test on Sec. 20-12s-4e. Krug Exploration and Drilling Company is putting the well down. It is on ground leased from the Ferry-Morse Seed Company. Nine miles northwest of Hollister, Trico Oil & Gas Company has abandoned its No. 2 test on the Fenton O'Connell Ranch at 2624 ft. Tide Water Associated held an interest in the project, which was on Sec. 4-12s-4e. On the Ciervo Anticline, McDonald & Brenton's No. 1 explorer has been given up at 456 ft. The venture was spudded in during November of 1951 and since then has been more or less idle.

Pleito Creek Wildcat Digs

Richfield Oil Corporation has spudded and is drilling ahead in the shallower formations with its San Emidio No. B-1 wildcat at Pleito Creek, two and one-half miles southwest of the Wheeler Ridge discovery well. The well site, on Sec. 36-11n-21w, is on the north border of the 7900-acre lease which Richfield recently acquired from Kern County Land Company.

Ant Hill Try Digs

Arthur C. Fisher is nearing objective depth around 1000 ft. with his Linda No. 11 test on Sec. 11-29s-29e, northeast of the Ant Hill field. Location is no great distance from a well drilled five years ago by Amerada Petroleum Corporation to an unproductive 1180 ft.

Guijarral Hills Wildcat Drilling

Standard of California is drilling below 1000 ft. with its Guijarral Service Company No. 15 wildcat test on Sec. 22-20s-16e in Fresno County's Guijarral Hills. Camay Drilling Company was commissioned to drill the well on contract.

Temblor Hills Ready to Drill

In the Temblor Hills about eight miles west of McKittrick, Southern California Petroleum Corporation is ready to put down its St. Anthony-Jasper-Hagood No. 1 wildcat on Sec. 18-30s-21e. Jasper Petroleum Company shares interest in the test which is on a lease of more than 1400 acres. Nearby acreage holders other than SCPC include Union, Shell, Richfield, Western Gulf, Pacific Western and Universal Consolidated. The project is destined to go to at least 5500 feet.

Santos Creek Wildcat Quits

P. & S. Oil Company's Theta No. 37-X on Sec. 29-28s-20e in the vicinity of Santos Creek has been abandoned at 1736 ft. A formation test of the interval of 1695 ft. and bottom showed a flow of sulphur water.

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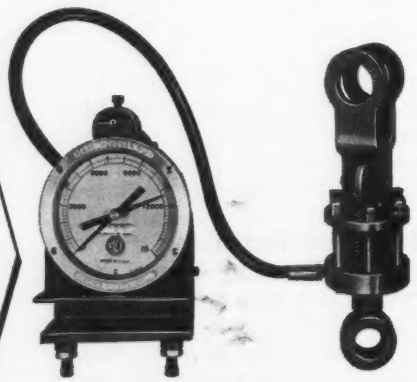

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Santa Ynez Wildcat Digs

In one of the few remaining primitive regions of Santa Barbara County, British American Oil Producing Company is drilling ahead below 2800 ft. with its Ynez Unit No. 4 on Sec. 5-5n-29w. Thornbury Drilling Company's Union Sugar No. 1-152 test on Sec. 5-10n-35w in the Guadalupe area last was reported pumping salt water from 3723 ft.

Saticoy Test Goes Off Board

General Petroleum's persistent try to a depth of 11,347 ft. with its S.P.S. No. 1 wildcat in the Gaviota area failed to pay off with production. It was drilled on Sec. 28-3n-21w, Ventura County. In the Conejo area, Revo Oil Company's Adamson No. 1 wildcat is a location on Sec. 5-1n-20w.

Ozena Try Progressing

At Ozena in Ventura County, D. K. Partnership No. 4 was last reported digging at 2499 ft. with Jamieson No. 54-7 explorer on Sec. 7-7n-22w. A Drilling & Production Company contract rig is drilling the well.

Sespe Try Drills On

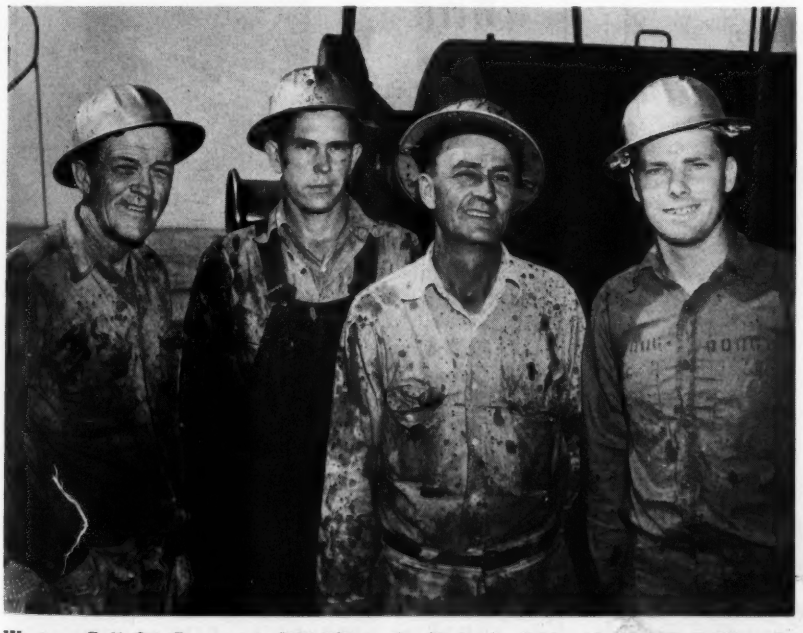
At Sespe in Ventura County, Walter H. Samson's No. 1 wildcat well on Sec. 23-5n-20w continues to drill steadily ahead at 625 ft.

Saratoga Play Due

The Texas Company is all set to drill its Foosgreen A No. 1 exploratory hole on Sec. 5-8s-2w in Santa Clara County's Saratoga area. Location is not far from the southeast end of Skyline drive, a familiar highway to motorists. It is on a spread of several thousand acres a short distance from the Santa Cruz County line.

East Islands Hole Staked

Amerada Petroleum Corporation has location staked for its Coldani Core Hole No. 1 on Sec. 15-3n-5e in the East Islands area of San Joaquin County. In the Maine Prairie area of Solano County, Amerada's P. & H. No. A-1 easterly extension test on Sec. 24-6n-2e was reported digging at 1235 ft.



Western Gulf Oil Company's KCL-B27 in the Fruitvale field with L. & F. Drilling Co. handling the job. Left to right: T. R. Sweeney, pipe racker; Jim Rowland, derrick; L. W. Baggs, driller; Doug Minner, floorman. Not shown in photograph: Paul Christman, tool pusher for L. & F., and Johnny Williams, tool pusher for Western Gulf.

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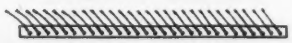

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Yolo County Wildcats Busy

Three-quarters of a mile north of gas production in the Winters field of Yolo County, E. A. Bender is drilling at 1315 ft. with his Wallace No. 1 wildcat on Sec. 12-8n-1w. In the Dixon area, Humble Oil's John C. Maxwell No. 1 test on Sec. 7-7n-3e is making hole below 3100 ft. At Pleasant Creek, a new abandonment has been registered. It was the R. F. Oakes and E. E. Combs, et al, Rominger No. 1 on Sec. 6-8n-1w. Nothing commercial showed to 2809 ft.

Naples Scene of New Wildcatting

William R. Whittaker Company, Ltd., has staked location for Whittaker-Dome No. 1, a wildcat venture on Sec. 1-4n-30w, two and one-half miles northwest of the Elwood field in Santa Barbara County. A. I. Davis is company engineer. The drill site more specifically is in the Naples sector.

Careaga Test Drilling Ahead

Some 3000 ft. northeast of its recent discovery, Western Gulf Oil Company's Careaga No. 2 in the Careaga area of Santa Barbara County is drilling at 4610 ft. Location is on Sec. 8-8n-33w. It is a contract job with L. & F. Drilling Company.

San Miguel Test Quits

Six miles north of the town of San Miguel, Joseph C. Kimble, Operator, Garelli No. 1 on Sec. 17-24s-12e has been abandoned at 5134 ft. Nothing of commercial interest was penetrated.

Hospital Nose Wildcat Spudded

Spudded and drilling ahead in the relatively shallow formations is The Texas Company's Hancock-Signal Wente NCT-One No. 2 wildcat on Sec. 27-3s-2e in the Hospital Nose area of Alameda County. Brown Drilling Company is in charge of the work. North of Livermore, the home town of former heavyweight champion boxer, Max Baer, the company's original Signal-Hancock Gordon No. 1 explorer is drilling at 4240 ft. Circulation troubles every once in awhile mar the even tenor of operations.

Davis Ranch Test Negative

A depth of 7500 ft. wrote finis to the exploratory journey of Humble Oil & Refining Company's O. P. Davis No. 1 well on Sec. 30-15n-1w in Colusa County. The derrick stood on the Davis Ranch.

Monterey County Combed for New Oil

It takes at least two to play tennis and sometimes a couple of companies find it advantageous to combine in a play for new oil.

Standard of California and Ohio Oil Company don't look indifferently on such an idea and are jointly interested in Alexander Maher No. 75-21 wildcat on Sec. 21-23s-11e or three miles southeast of San Ardo field production. Standard is the actual operator. Location also is about two and one-half miles southeast of the Hamby wells owned by General Petroleum.

Don Dana, widely known oil lease and landman, has returned to Los Angeles from a motor trip to Midland, Texas.

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Los Angeles Basin

Del Valle Try Drills

Hayes & Sprague's contract rig is drilling General Petroleum's N. L. & F. No. 3 wildcat on Sec. 20-4n-17w in the Del Valle sector at 3510 ft. The Porter Sesnon, et al, Sesnon Fee No. 4 test on Sec. 33-3n-16w in the vicinity of Aliso Canyon continues to make hole below 1850 ft. Kellogg Drilling Company is contractor.

Newhall Well In

Morton & Dolley has added a new well in the Newhall area. The test, which was drilled on contract with Ben Owens, came in from a plugged depth of 2320 ft. pumping about 40 barrels of oil a day. Total bottom is 2785 ft. in the well, tagged Hilty No. 1 and reposing on Sec. 12-3n-16w.

Rosecrans Test Pumps

Near the intersection of Avalon boulevard and Compton street in the Rosecrans area, Royalty Service Corporation has placed its Compton No. 1 on the pump after drilling to a total depth of 6000 ft., maybe more or perhaps a little less. Yield of the well, on Sec. 20-3s-13w, was estimated between 15 and 20 barrels daily.

East Los Angeles Wildcat Drilling

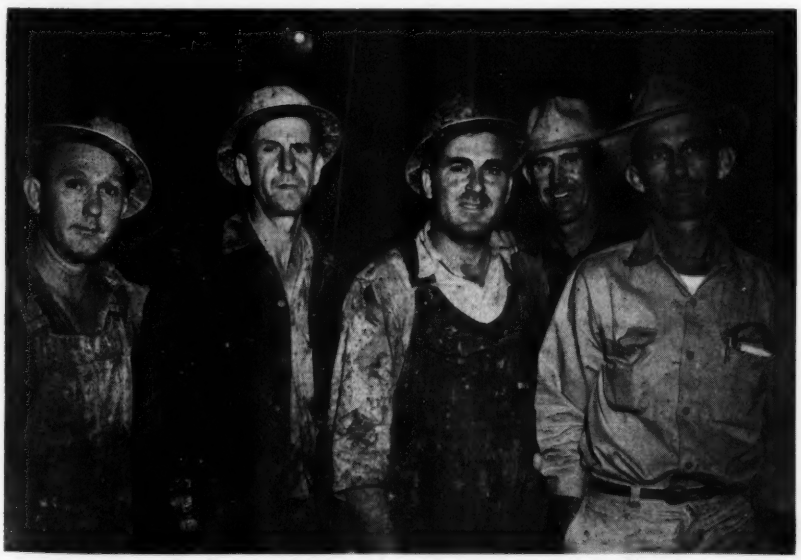
On Sec. 18-2s-12w near the intersection of Sheila street and Atlantic boulevard, Bankline Oil Company's Fluor Corporation No. 1 test was last reported drilling at 1200 ft. On Sec. 16-2s-12w, Richfield Oil's extension test, C.M.D. No. 1, is making hole at 1560 ft.

Sansinena Test Starts

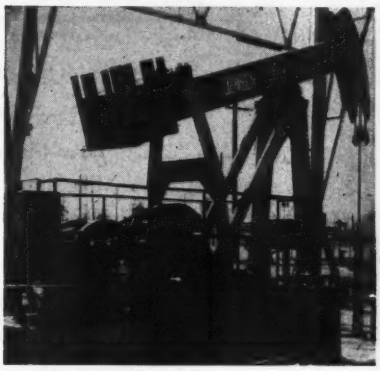
East of its valuable production in the Sansinena area proper, Union Oil Company is ready to put down its Lindauer No. 1 test on Sec. 33-2s-10w, Los Angeles County. The company's operations in the area almost escape notice due to the modern, soundproof and odorless equipment employed.

Randsburg Test Drills

At old Randsburg in San Bernardino County, famed in mining history, Fremont Development Company's Fremont No. 1 explorer on Sec. 34-12n-4w continues to probe deeper at 2560 ft. Over in the Chino Hills, Champion, Hemphill & Schneider is making hole at 1350 ft. with Champion No. 1 test, which is seeking new production on Sec. 5-3s-8w.



Standard Oil Co.'s Well No. KCL 2-27 in the Wheeler Ridge field with J. S. Hagestad Drilling Co., drilling contractor. Left to right: C. L. Klowder, driller; E. E. Stowe, lead tong; E. L. Williams, pipe racker; J. H. Moore, derrick; Roy S. Wood, tool pusher.



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Saugus Test Working Drill

Northwest of Saugus, a town noted for its rodeos, The Texas Company's Newhall A No. 1 on Sec. 9-4n-16w continues to carve its way deeper at 956 ft. Pike Drilling Company is doing the work.

Huntington Beach Wildcatting Listed

Douglas Oil Company of California is engaged on work preliminary to

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putting down a well of more than ordinary interest between Huntington Beach and West Newport. The project, tagged Douglas-Newland No. 1, will explore on a 220-acre lease in Sec. 1-6s-10w. It is a fault play and the well's primary objective will be production in the C zone expected from 5500 to 5800 ft. Douglas has been scoring with pronounced success in recent field operations. Three wells are producing at a highly satisfactory rate for Douglas at Castaic Hills and the company shares interest with General Petroleum Corporation in the imimportant development campaign progressing in the Bradley Canyon area of Santa Barbara County.

Los Angeles Test Drilling

On Sec. 16-2s-12w at East Los Angeles, Richfield Oil Corporation's CMD No. 1 extension test is drilling ahead below 1625 ft.

Tujunga Valley Wildcat Working

Oceanic Oil Company's DeMille No. 1 prospect job in the Tujunga Valley area on Sec. 5-2n-14w continues to drill ahead below 2200 ft. In the Little Tujunga area, Intex Oil Company at last reports was down 4250 ft. with its Cleeves No. 1 test on Sec. 33-3n-14w and fishing. Top of the drill pipe fish is at 3531 ft.

Castaic Hills Test of Interest

Standard of California has started the drill in its Villa No. 45 test well in the Castaic Hills area of Los Angeles. It is being put down for the joint account of Standard, Ted Sterling and Paul Trousdale on the 160-acre Jesus Villa lease in the southwest quarter of Sec. 35-5n-17w or one-half mile west of production. Location also is not far from the Texaco and Seaboard Oil Stanley wildcat, which drilled without success on the northeast quarter of Sec. 34. The Texaco-Seaboard try was carried to 8747 feet and on the way to bottom evidently found oil showings of considerable promise in the lower formations, particularly in a richly-saturated 40-ft. measure. Despite the encouraging aspects of the well, tests were negative due to characteristic tightness of the sand. This earlier venture apparently missed the Sterling zone, but deeper down picked up formations comparable with sands producing in the nearby Oak Canyon field. Standard holds a 50 per cent interest in the Villa effort. Sterling and Trousdale each hold a 25 per cent interest.

Anaheim Test Ready to Drill

Two and one-half miles east of the town of Anaheim in Orange County, The Texas Company is about to start the drill in its Dinkler No. 1 wildcat on Sec. 7-4s-9w near the intersection of Rio Vista street and La Palma avenue.

Madera Test Drilling Ahead

Following a period of inactivity, Thomas M. Blake has abandoned his Chuck No. 1 wildcat well on Sec. 28-10s-17e in the Madera area at a total depth of 4062 ft. in granite.

In the Moffatt area, Lowry R. Lytle is preparing to spud Strathearn No. 1 test on Sec. 31-11s-15e.

Orcutt Deep Test Drilling

Drilling continues at a depth below 10,550 ft. in Union Oil Company Dome No. 18 deep test on Sec. 24-9n-34w in the old Orcutt field of Santa Barbara County. More than a month ago 7-in. casing was set at 9805 ft. due to bad condition of the well. Subsequent swabbing operations recovered 24 gravity crude oil at a rate probably above 100 barrels daily.

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Rocky Mountain NEWS

Colorado—Idaho—Montana—New Mexico—Utah—Wyoming—Western Canada

Select Billings

The new production division of the Socony-Vacuum Oil Co. which will operate in the northern Rocky Mountain region and Canada will have main offices in Billings, Mont.

Pegasus Division of the Socony-Vacuum Oil Co. has been chosen as the tentative name of the new unit, which will combine exploration and production operations now conducted by the General Petroleum Corp. in Montana and most of Wyoming, Magnolia Petroleum Corp. in North and South Dakota, and Canadian operations directed out of the New York offices. Socony-Vacuum Exploration Co. Ltd. of Canada will be affiliated with the division.

Green River Basin operations in Wyoming and Colorado will be handled under the Salt Lake City office of General Petroleum.

The change will result in a move of some personnel from the Casper, Wyo., offices of General Petroleum, where Rocky Mountain Division headquarters have been maintained by the company. A. F. Barrett, manager of the Rocky Mountain division of GP, said the change had been decided on because of the extensive Canadian and Williston Basin operations of Socony-Vacuum. Although the new division will be set up by the first of the year, the physical transfer to Billings will take place gradually and may not be completed for a year and a half.

Montana

Highest gravity oil yet found on the Montana side of the Williston Basin has been recovered by Shell Oil when it encountered a flow of 49.4 gravity crude at the rate of 1675 barrels per day.

The production was from its 21-33-B-NP wildcat in McCone County and about 14 miles southwest of the Richey area discovery in Dawson County. The test was at the interval 9185-9260 feet, which is believed to be the Devonian. The well is located at c ne nw 33-22n-48e.

Shell is resuming operations at its No. 22-25-B-NP wildcat, two miles to the northeast, on which work was suspended in July. Before drilling was halted this summer, shows were found in the Devonian around the 8645-foot level.

Eleven miles to the northwest of Shell's Richey area discovery, Marigold Oils, Ltd. found shows in cores at the No. 1 Farnham, c sw sw 14-25n-48e, in McCone County. Staining, odor and fluorescence were found at various levels from 6674 to 7240 feet. Operator planned to carry well down to 8500 feet before further tests of the present indications.

The Texas Co. was coring below 8870 feet at its No. 1 Reynolds, c ne sw 26-15n-54e, in the Sand Creek sector of Dawson County after recovering oil and gas cut mud at 8684-8797 feet.

Another test in the Sand Creek area. Williston Oil and Gas Co.'s No. 1 Govt., will be carried on by Earl Cranston and C. C. Thomas, independents. Williston drilled the well to 9210 feet, and the new operators will test in the Silurian where shows were found around 8968-9013 feet.

Wyoming

The Navy has drilled one dry hole and one flowing well thus far in its evaluation tests of Teapot Dome in Natrona County. Its No. 1-G-10 was drilled to the granite at 6829 feet and plugged back to 5700 feet for completion in the Tensleep. Initial production rates indicate a well of 590 to 600 barrels per day. Oil is of 31 gravity. The Navy plans to drill two more tests in fiscal year 1953 and may drill four more later, depending on congressional appropriations. Final results of the test will determine whether Teapot Dome is retained by the department as a naval reserve or is turned over to the Department of the Interior for leasing.

(Lt. Comdr. J. L. Darnell recently reported as relief to Comdr. J. A. Scoville, inspector of naval petroleum and oil shale reserves with headquarters in Casper. Lt. Comdr. was transferred here from Jacksonville, Fla., where he had been with the Naval Air Station).

Sohio Petroleum Co. found oil showing in drill stem test at its No. 1 Govt. in Fremont County from the interval 6903 to 6929. Fifty feet of mud with globules of oil was recovered, apparently from the Tensleep. The well is located at 27-35-95 and is six miles south of the Sand Draw field. It has been watched with interest since it was spudded in Sept. 8.

Forest Oil was preparing for a Tensleep test on Walker Dome in Hot Springs County. The area is northwest of the Grass Creek field, and Tensleep production has been obtained both at Grass Creek and at Enos Creek, which is southwest of the new test. There has been no Tensleep production thus far at Walker Dome.

Another interesting wildcat will be drilled in Campbell County in northeastern Wyoming by F. Kirk Johnson of Fort Worth and Denver. Objective is the Lakota sand expected at about 6500 feet.

Resolute Oil was continuing to test its No. 6 Northern Pacific, c ne ne 17-57n-101w, in the Badger Basin after recovering 40 barrels of oil per day from the Dakota at the interval 9816-27 feet and 9833-62 feet.

North Dakota

Amerada Petroleum recovered oil at the rate of 50 barrels daily, and 33 barrels of water daily, at its No. 1 North Dakota "E" wildcat, six miles

south of the Beaver Lodge pool in Williams County.

Two wildcats east of the Nesson anticline have been plugged and abandoned. Stanolind Oil and Gas abandoned its No. 1 Waswick, c sw ne 2-153n-85w, Ward County, at 11,009 feet in the Cambrian. Deep Rock similarly abandoned its No. 1 Johnson "A" at c sw sw 30-139n-86w, Morton County, at 8097 feet.

A failure also was marked up by Amerada in the Croff area, McKenzie County, when it abandoned what the operator had hoped would be a confirmation of the Croff discovery. The test was No. North Dakota "B", c sw ne 36-150n-96w.

In Slope County in the southwestern part of the state, Deep Rock was last reported drilling around 9300 feet at a test at 8-153n-98w. The test is being watched closely because the location is outside the Nesson anticline.

Colorado

The No. 1 L. J. Derks drilled by the South Texas Development Co. found oil in the J sand at 5917-30 feet. The well flowed at a rate of seven barrels of oil per hour. The wildcat, at nw nw se 17-8n-56w, is in eastern Weld County and is 12 miles west of the Yenter pool.

Union Oil Co. was preparing for a Mesa Verde test at No. 1 Ivory, 34-2n-97w, in Rio Blanco County. The company has done considerable exploratory drilling in the area.

In Kiowa County, Continental Oil Co. was drilling around 6125 at its Amidon wildcat, 16-18s-52w. If successful, the test would extend Denver-Julesburg Basin production to the south. The same operator plugged its wildcat at 33-8s-46w in Kit Carson County after drilling to a total depth of 6207 feet.

To the west of Denver-Julesburg Basin production, Twin Oil Co. was drilling ahead at its No. 1 Cuykendall in southeastern Weld County. The well found 380 feet of oil in the J sand on test of the interval 6997-7015 feet. Later tests also recovered oil. Location is ne ne sw 12-2n-63w.

Nebraska

Chicago Corp. and Republic Natural Gas obtained oil from the D sand at their No. 1 Alma J. Sell, ne ne sw 18-15n-48w, in eastern Cheyenne County.

The same operator was preparing to test the No. 1 Schlumberger in Morrill County after finding gas and oil at the interval 4019-34 feet. Two new locations have been staked by these companies in the area.

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Utah

Carter Oil will drill a second well in the Walker Hollow area in Uintah County. Company's No. 1 Orlan L. Johnson recovered 2500 feet of 33.4 gravity oil at the interval 5604-57 feet. The No. 1 Johnson is located at sw sw 8-7s-24e (SLM). The company will drill the No. 1 Gloria Bamburger a half mile to the northeast.

The same company's No. 1 Joseph Smith in the Flat Mesa area of Duchesne County was bottomed at 9103 total depth and running logs. The well made 207 barrels of oil in 13 hours from the basal Green River.

Continental Oil is drilling a wildcat, the No. 1 McConkie et al, in the central Uintah Basin of Uintah County, location sw sw 16-4s-21e (SLM).

New Mexico

In a Mississippian test of the Chimney Rock area, San Juan County, Phillips Petroleum was testing its No. 1 Navajo wildcat. In a previous test of what is believed to be the Pennsylvanian at the interval 6585-6641 feet, the well made gas and gas cut mud. Well was at total depth of 6872 feet for new test.

Western Canada

A well recently brought in by Calvan and associates in the Malmo field of Alberta has been completed as a producer from two Devonian zones. The well, Calvan-Asher Malmo No. 5-11, at lsd 5 of 11-44-22w4, topped the D2 zone at 4915 feet and the D3 at 5233 feet. Crude oil production was encountered at the intervals 4977-5062 feet and 5231-5275. Quarter section on which the well was drilled is jointly leased by Calvan Consolidated, Asher Oil Co., and Redwater Utilities.

Gas at several levels has been found in Anglo Rochester No. 1, which is being drilled on a farmout from Anglo-Canadian. Recent reports showed the well drilling around 5000 feet. Production as high as 2,800,000 cubic feet per day was encountered in the D1 Devonian, but some salt water also was found in the formation. Salt water was found in the D3, which was topped at 3200 feet. Gas production also has been found in the lower Cretaceous. The well is in Alberta and

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25 miles south of Athabaska.

Federated Petroleum and United Oils were drilling ahead with the D3 Devonian as objective at their Nevis No. 10-22 after finding crude oil of 30 degrees gravity. A gas flow at the rate of 8,000,000 cubic feet per day also was found. The well is in an area where heavy gas production previously had been found.

Canada-Cities Service Petroleum Corp. will drill an 8500-foot wildcat 66 miles west of Edmonton. The wildcat, Lobstick No. 1, c 1sd 11, 9-53-8w5th, will test the Cretaceous sandstones and the Mississippian and Devonian D2 and D3 reef limestones.

It was announced that the well will be drilled for the joint account of Cities Service and Seaboard Oil Co.

California Will Soon Get Tidelands

Senator Knowland, Republican of California, has expressed belief that Congress will pass next year a bill giving lands beneath the marginal seas to the States. The Senator said he expects Congressional committees to hold hearings on the so-called tidelands legislation, but he anticipated that the hearings would not be of long duration. Legislation to give the States outright ownership of the submerged areas out to the three-mile limit has been okayed by Congress on two occasions but vetoed in each instance by President Truman. General Eisenhower, President-elect, announced his position during the campaign was in favor of State ownership of offshore lands.

The California Senator, by the way, has mentioned that he will seek the post of Senate Republican floor leader if Senator Bridges of New Hampshire decides to vacate the job.

McCarty Establishes Chicago Office

Marking a third of a century of growth as an industrial advertising agency, The McCarty Company opened offices in Chicago at 20 East Huron Street on December 1st.

Long established as one of the country's leading technical agencies specializing in industrial products, McCarty operates offices in Los Angeles and San Francisco and was founded in 1919.

The Chicago-wise expansion is being made to more adequately serve many of its 65 West Coast clients in eastern centers and to make available a technical and engineering service to companies in the Chicago area.

The Chicago office is under the management of Harry L. Bauer, well-known Chicago advertising counsellor, formerly an account executive with Kirkgasser-Drew agency in Chicago for seven years and more recently advertising manager of Barber-Colman Company of Rockford, Illinois.

Everyone probably knows of the Desk and Derrick Clubs, which are composed entirely of oilwomen, but it may have eluded the notice of some that Bakersfield has a Petroleum Wives Association.

General American Transportation to Build Plant in Utah

General American Transportation Corporation of Chicago, Illinois, has just announced that a new plant for their company will be located in Utah County near Provo, Utah, on the D&RG and UP Railroads. The purpose of the plant is to fabricate steel tanks in preparation for field erection. The new General American facility will make available to the Rocky Mountains and Pacific Coast States, the Wiggins Floating Roof and the other Wiggins conservation structures which are licensed to the General American Transportation Corporation.

In addition to the new plant at Provo, the General American Tank Car plant now operating at Colton, California, will serve as a subsidiary facility for the field erection work, giving General American a completely integrated service unit for field erected steel plate work. Several hundred men will be involved in the complete new operation.

General American expects the plant to be in operation during the early part of the third quarter of 1953.

With Drilling Contractors

The only woman member of the American Association of Oilwell Drilling Contractors is Mrs. Lottie McFann, president of the McFann Drilling Company of Long Beach. Lottie, as she is known to her many friends in the petroleum industry, took over the reins of the company when her husband, Bill, passed away eight years ago. In addition to her expanding contract drilling activities, Mrs. McFann is also president of the California American Oil Company, a producing organization.

Both the National Petroleum Council and the Petroleum Administration for Defense are asking for 55,000 wells in 1953, 60,000 in 1954 and 65,000 in 1955. This, according to Brad Mills, American Association of Oilwell Drilling Contractors and executive vice president, is a big order, even in this day of inflation and big figures. "Most of us would settle now for a program a little smaller, but even the full number of wells can be drilled if tubular goods and necessary equipment are made available," he said and added:

"The uncertainty of world conditions and the desire to build up a large developed oil reserve are responsible for such an expanded drilling program. Conceivably the United States alone could be forced to produce up to 10,000,000 barrels of oil a day in case of a major conflict. Oil production is developed only by drilling operations. Since contractors now are drilling 90 per cent of all wells it is obvious that the contracting volume will be large if present plans are carried out. Our county and national economy have grown out of all former bounds, and with that growth has become greater consumption of all primary products. Oil is so basic and necessary that its consumption will continue to grow. Drilling will make that expansion possible."

C. L. (Slim) Fowler and Carl T. Gates, who guide contract drilling operations of Fowler Drilling Company with eminent success, are both veteran oilmen. Slim made his debut to the industry when he was only 14 years of age. Then he was working as an apprentice in fields in Oklahoma and Texas. Carl's interesting career in the drilling and producing branch of the petroleum industry has extended for more than 35 years. The company was organized in 1940 and from the latest reckoning operations in a dozen years have accounted for the drilling and completion of no less than 1000 wells. Fowler's first interest is putting down wells. However, the company also has rights in seven partnerships primarily engaged in the acquisition of leases and the operation of wells here and there.

Imboden Drilling Company, which was incorporated early this year, is headed by George D. Imboden as president, who has been identified with oil field work for a quarter century. Back in the lusty days of the oil boom at Venice he was superintendent of Treasure Oil Company. Fred L. Walker, secretary and treasurer, is, among other achievements, an outstanding authority on drilling fluid problems. Company vice presidents are Gay Walker and Bernice Imboden.

Clyde Hall Drilling Company put down Pacific Western Oil Corporation's new M.&M.A. No. 12-30 on Sec. 30-30s-22e on Kern County's Belgian Anticline. The well started off from a plugged depth flowing at the rate of 1195 barrels of net oil a day, along with gas in quantity.

R. B. (Russ) Watkins, owner of Pacific Drilling Company at Long Beach, is one of the busiest members of the petroleum fraternity. Besides his contract drilling activities, he holds interest in H. H. and W. Oil Company, Watmac Oil Company, Watkins & Dolley, Watkins-Chapro, Watkins & McFarland, Quinn & Watkins, and R. B. Watkins & Associates. He also is in partnership in the Maricopa field with Doc Rood, H. H. McVicar, Jim Wood and Les Callahan. Pacific Drilling rigs are in charge of Jim Waddill, Bill Crissman and Bill Handley. Genial Russ has been in the oil fields since 1926.

Reviewing the work of the AAODC during the past year, F. W. Brigance, president, said the educational committee has formulated a most extensive educational program for 1953. The insurance committee has a program, which, if successfully concluded, should accrue considerable benefits for the industry, he added. Without enumerating the rest of the committees, the association head committee chairman will be thoroughly competent and provide ample assurance that every effort will be made to assist AAODC members in improving the industry's position.

New officers to serve AAODC California chapter for the ensuing year include Joe Kellogg, K. L. Kellogg & Sons, chairman; F. A. (Pug) York, Miller & York, vice chairman; and Charles Eastman, California Production Service, secretary. E. C. (Ned) Brown, Brown Drilling Company, was chairman for the past year.

Chalk up another successful contract job for Pike Drilling Company. At Santa Fe Springs, the contractor has completed Universal Consolidated Oil Company's Hokom No. 1 from a plugged depth of 7573 ft. for an initial yield of 150 barrels a day. The well, on Sec. 5-3s-11w, was an extension test east of Pray & Walker's development.

New Rigs Make Debut

Contractors recently introduced two brand new Emsco drilling rigs to field operations in the San Joaquin Valley.

L & F Drilling Company purchased an Emsco GA-250-T drilling outfit and put it into immediate service at Western Gulf Oil Company's Price and Stewart No. 7 in the Fruitvale field.

K. L. Kellogg and Sons, one of the busiest contract drilling companies in the state, has put a new Emsco GB-800 drilling rig into operation at Standard Oil Company of California's KCL No. 12 in the Lerdo area near Bakersfield.

Left to right: Dick Kellogg, K. L. Kellogg & Sons; Dave Carnahan, Sales Manager, Emsco Derrick & Equipment Company; Leonard Spray, District Manager, Emsco Derrick & Equipment Company; Forrest Harrell, Tool Pusher, K. L. Kellogg & Sons.

Joe Lewis and Gould Fitch, both of Bakersfield, formed L & F Drilling Company last January and now are operating two rigs. Offices and yard are maintained on Brittain Road in Bakersfield.

Joe Lewis formerly was general superintendent for Ring Oil Company for 21 years and later drilling superintendent for Tracy Harkness for more than 4 years. Gould Fitch had been identified with the refining industry for many years before entering the contracting business.

L & F's new Emsco rig—the fifth of its kind to see service in California—is a completely portable, lightweight drilling outfit which, together with 5,000 feet of drill pipe, may be moved in eight loads. All of the latest safety features are to be found on the rig.

Drilling requirements of the L & F rig are met with an Emsco D-300 slush pump. An hydraulic torque converter provides a wide range of speeds and permits the use of maximum obtainable horsepower at any time.

Use of a chain drive between the source of power and the torque converter permits the use of any make of engine or engines regardless of rated engine speed merely by changing the ratio of the sprocket drive.

Addition of the new GB-800 rig brings to six the number of drilling rigs K. L. Kellogg and Sons now operate out of the Bakersfield offices and yard on Fruitvale Avenue. Six more rigs are operating out of the firm's Southern California office.

This new rig is the first of its kind to be used in California. Previously it has proved to be very popular in the Mid-Continent fields. Outstanding feature of the rig is its portability. In the flat set, one-package rig, with drawworks, engines and compounding transmission mounted on a common skid, it is never necessary to break chains, oil lines or air lines when moving.

Drilling requirements are met with an Emsco D-500 slush pump. Nominal depth for the GB-800 rig is 10,000 feet. Both new rigs were purchased from Emsco Derrick and Equipment Company. Leonard Spray is district manager for the Bakersfield area.

Left to right: Dave Carnahan, Sales Manager, Emsco Derrick & Equipment Company; Gould Fitch and Joe Lewis, L & F Drilling Company; Leonard Spray, District Manager, Emsco Derrick & Equipment Company.

Chiksan Organizes New Subsidiary in Canada

Chiksan Company has established a wholly-owned Canadian subsidiary, it has been announced by H. J. Hagn, President. The new subsidiary will operate under the name of Chiksan of Canada Ltd.

Over 9 acres of property have been purchased by Chiksan in Brantford, Ontario and it is planned to

construct a plant on this site for the manufacture of Chiksan ball-bearing swivel joints early in 1953. Chiksan swivel joints are used throughout industry to provide flexible lines for the flow of fluids and gases under extremes of pressure and temperature. It is also expected that unions, blocks, and other products of the Well Equipment Mfg. Corp. Division of Chiksan will be made at this new plant.

When in operation, Chiksan of Canada Ltd. will take over the distribution and sale of all Chiksan and Weco products now being handled by Chiksan Export Company in Canada. The establishment of the new subsidiary will not affect the distribution of Chiksan products in Canada by G. W. Beecroft & Co. in Toronto, and Lynn, MacLeod Engineering Supplies, Ltd. in Montreal, Lachine, and Thetford Mines, Quebec. The recently expanded Edmonton, Alberta office of Chiksan Export Company will be operated under Chiksan of Canada Ltd.

Creation of the new subsidiary was necessitated by the increased activity in the petroleum industry and the tremendous growth of general industry in Canada which has caused an unprecedented demand for Chiksan and Weco products in that country.

Officers of Chiksan of Canada Ltd. are: H. J. Hagn, President; Frank Burrill, Vice President; G. R. Winder, Vice President; and K. K. Knutzen, Secretary-Treasurer. All are also officers of Chiksan Company, and Chiksan Export Company.

New Link-Belt Book Of Equipment For Oil Fields

A wide variety of equipment used in the oil fields, including chain, sprockets, bearings, shale shakers and shovel-cranes, is described in a new 36-page Book No. 2480, published by Link-Belt Company, 307 No. Michigan Ave., Chicago, Ill.

Illustrations, tables of weights, strengths and dimensions, and other pertinent engineering information facilitate correct selection of equipment.

Precision steel oil field roller chains in single and multiple widths are shown, together with A.P.I. oil-drilling drive chains (SS types). The

book contains a useful roller chain pitch and length conversion table and helpful suggestions for prolonging the life of roller chain drives.

Shale shakers for shallow, medium and deep drilling are listed, together with intake mud boxes; and mud conveyors used in offshore drilling operations.

Book 2480 serves as a guide to selection of ball and roller bearings, flexible couplings, silent chain drives, enclosed worm gear and herringbone gear drives, gearmotors and motogears, variable speed and Electrofluid drives.

Listed too are Link-Belt Speeder shovel-cranes, which are convertible for use as a crane, dragline, trench hoe, clamshell, or pile driver, permitting various operations with minimum equipment for pipelining and oil field service.

Book No. 2480 will be sent to interested readers without charge on request.

New McCullough Tool Company Catalog

The McCullough Tool Company has just issued a new 40-page, illustrated general catalog. This 1953 catalog contains a complete description of the entire line of specialized tools and services available to the oil industry through the McCullough Tool Company

It gives a comprehensive explanation of the sizes, applications and operation of such tools as Burrless Bullet and Glass Jet Perforators, Radiation Well Logging with the amazing new Scintillometer, the Magna-Tector, Back-off Services, Jet Casing Cutters, Bottom Hole Cutters and Casing Collar Shots. Also Type "B" Bridge Plugs, Double Acting Rotary Jars, Spears, Overshots, Internal and External Cutters, Gun Testers, and others.

Copies of the catalog are available on request

Camp Cooke Oil Position Explained

The Army Department has announced that because of recent discoveries of oil at Camp Cooke this huge training center will be placed on inactive status.

However, Union Oil Company president, Reese H. Taylor, emphasized in an official statement that development of oil in the camp area can be accomplished without interference with military activities there under a plan mutually agreed upon by Union and camp authorities.

Said Taylor:

"There is no reason so far as Union Oil Company is concerned why the development of its oil rights cannot proceed without interference with the military activities of the camp, and there is nothing in our present or past negotiations which makes it necessary to abandon any portion of the area for military purposes."

Pointing out that Union Oil acquired the mineral rights in 1903 and 1905 under approximately 42,357 acres of what is now part of the Camp Cooke Military Reservation, the oil executive stated that the Army acquired Camp Cooke in 1942 and in taking title to the surface the military fully recognized these mineral rights.

He affirmed that the company in turn agreed not to develop its mineral rights except with permission and in accordance with the requirements of the Camp commander. The recent oil discovery—Jesus Maria No. 4 on Section 3-8n-35w was made in accordance with these provisions, he said.

Taylor further stated that Union has made no estimate of the possible oil value of its rights and obviously cannot do so on a basis of one well. He added that present indications are that they are extremely valuable.

THIS LAUGH

OFF!!

"Why did you leave your girl friend's house so early last night?"

"Well," replied the counterman, "we were sitting on the couch when all of a sudden she reached up and turned out the light. I'm not dumb. I know when to take a hint."

There's a lot of logic behind most American customs, but there's one for which we can find no reason at all, it being the habit of waiters and waitresses putting the check face down on the table or tray, that is, if there are two or more in the party. As soon as the check appears every one makes a rapid calculation as to the total, but they never know how close they were because convention demands that the host pick it up like he was drawing to an inside straight. Why not lay the luncheon and dinner checks face up? Anyone who is brave enough to pick one up these days should get credit from his guests for the full amount. Then, too, the other people will all be looking at the check instead of the host which gives him a moment to regain his composure after receiving the initial shock.

A young lady was on a sightseeing tour of Detroit. Going out Jefferson Avenue, the driver of the bus called out places of interest.

"On the right," he announced, "we have the Dodge home."

"John Dodge?" the lady asked.

"No, Horace Dodge."

Continuing out Jefferson: "On the right, we have the Ford home."

"Henry Ford?"

"No, Edsel Ford."

Still farther out Jefferson. "On the left we have the Christ Church."

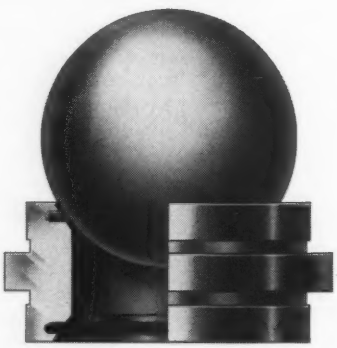
A fellow passenger, hearing no response from the young woman, tapped her on the shoulder and said, "Go ahead, lady, you can't be wrong all the time."

"Your husband looks like a brilliant man—I suppose he knows everything."

"Don't fool yourself. He doesn't even suspect anything!"

Sweet Young Thing: "After we're married, darling, I'm going to be a real good wife. I'll cook, sew, darn your socks, keep the house clean and try to save money. What more could any man ask?"

Truck Driver: "Well, nothing I guess, unless he was evil minded."



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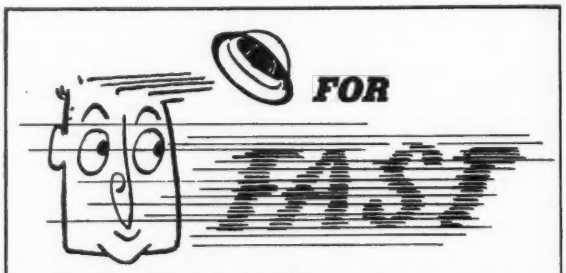

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